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The second volume of the introduction to psychology and leadership course (see the final reports which summarize the development project, EM 010 418, EM 010 419, and EM 010 484) concentrates on the psychology of individual behavior and is divided into three separate documents. Like Volume One (EM 010 420), it is a self-instructional, syndactic test with discussion sections and criterion quizzes, but it also includes audiotape-panelbook sections. EM 010 422 and EM 010 423 are the second and third parts of this volume, and EM 010 424 through EM 010 447 and EM 010 451 through EM 010 512 are related documents. (SH)

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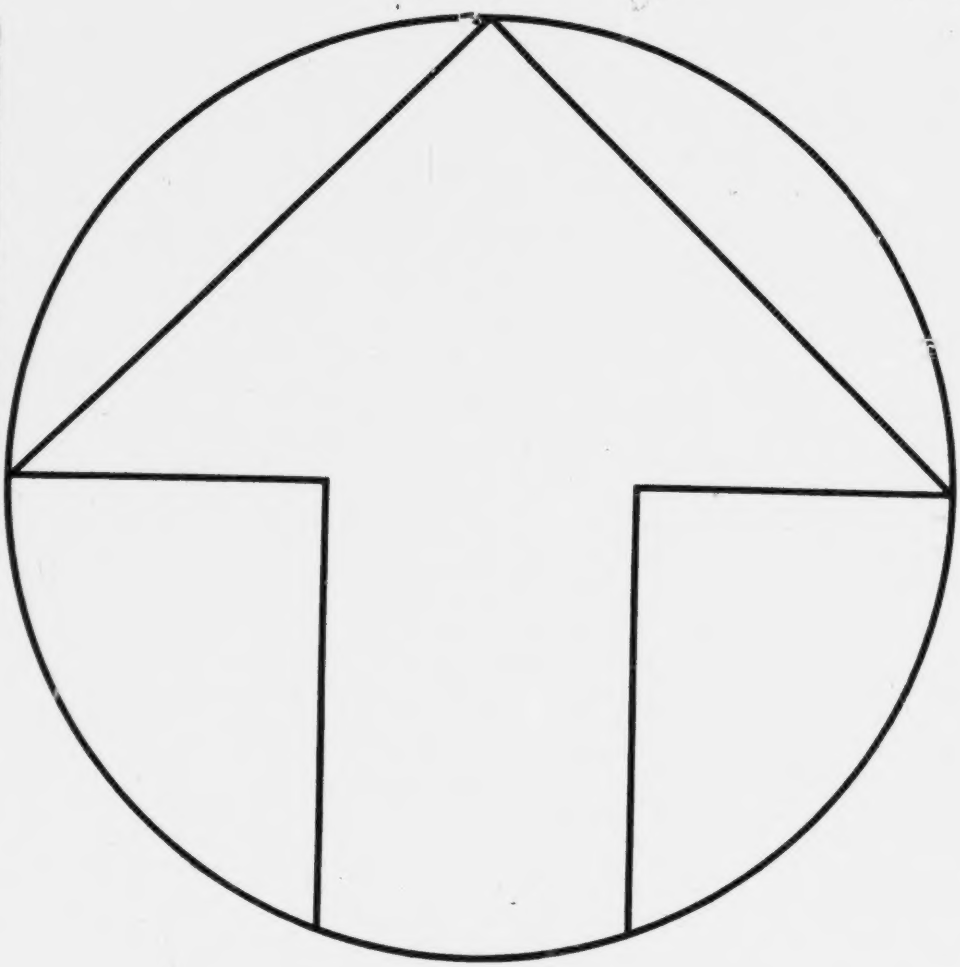

Introduction To Psychology And Leadership

Volume II-A

Individual Behavior

1

EM 010 491

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United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segments I, II, III, IV, & V

Volume II-A

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1971

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United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment I
Introduction to Psychology

Syndactic Text
Single Volume
(ST/SV)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

FOREWORD

"Know then thyself, presume
not God to scan;
The proper study of mankind
is man."

Alexander Pope

The essence of psychology is understanding, and nowhere is understanding so vital an ingredient as in leadership. While schools of psychological thought may wage war on each other's methods and principles, there is the common effort by everyone, however connected with the field, to attain some handle on the enormously complex workings of human feeling and action.

This section on psychology addresses those areas that are most appropriate for the psychological awareness leaders need to motivate and train men. It is hoped that given this sketch, the student will, on his own, explore deeper into the fine body of readings in this field.

The first segment traces some of the history of this relatively new science, differentiates between significant schools of psychological thought, and points out how misconceptions about the workings of the mind are as prevalent in our own day as they were in past history.

INTRODUCTION TO PSYCHOLOGY

Summary 1

The Historical Development of Psychology

The field of psychology began with the caveman's first drawings. Unable to understand natural events, primitives based their explanation of behavior on superstitious beliefs. The popular notion was that spirits or demons invaded the body and were responsible for man's actions. Consequently, all occurrences were considered the work of spirits, good or evil.

Figure 1. Superstition: "Guided by the Stars"

Until the Renaissance period, the study of human behavior was primarily delegated to the philosophers, who attempted to make inferences concerning human behavior using logical or rational methods. By 1600, however, unquestioning acceptance of authority and faith in logic was giving way to direct observation of natural phenomena and the inductive method now used by scientists. For the next two centuries, however, attention was directed to natural phenomena or specific physical processes rather than human behavior.

In the early 19th century, there developed a flourishing school of experimental physiology which was destined to have a great influence on the future science of psychology. Application of the experimental method to the study of the brain and the nervous system led to discoveries which in turn stimulated inquiries into the psychological bases of human thought, feeling, and behavior.

The advances made in experimental physiology led directly, about the middle of the 19th century, to the establishment of a new field known as psychophysics. Using the scientific approach, Gustav Fechner studied the relationship between sensation and the physical world. Psychophysics is the direct forerunner of experimental psychology. It concerned itself with determining the relationship between the physical characteristics of stimuli and the sensations they produce by measuring the amount of change that must be made in a physical stimulus to produce a psychological change.

In 1879, Wilhelm Wundt founded in Leipzig the first experimental psychology laboratory. The laboratory group dealt with the concept that "mental states," such as sensations, images, and feeling, formed the structure of consciousness. Hence, they became known as the structuralists. Theirs was essentially an analytical approach, that is, they believed that "mental states" were directly observable through introspection.

Around 1900, the American, John Dewey, founded the school of functionalism. Functionalism, like structuralism, is basically analytical. However, functionalism attempted to relate behavior to the "survival of the fittest" concept of Darwin. By emphasizing the function of the psyche in terms of behavior and adjustment to the environment rather than isolated mental states, the functionalist expanded the scope of psychology.

It was a third and later group of psychologists, the behaviorists, who made the most complete break with non-empirical approaches to psychology by devoting themselves exclusively to the study of observable behavior. "If you can't observe or test it, it isn't proper data for the science of psychology" the behaviorists insist. Therefore, behaviorists hold that such concepts as soul, mind, and unconsciousness have no place in empirical psychology.

This is the end of Summary 1. Go to the next page and take the Quiz.

Summary Pre-Quiz 1

Historical Development of Psychology

Answer the following question as indicated in your Student Guide.

---

1. This section discusses the general historical development of psychology. Below are several general types of approaches. Arrange them in a sequence showing the order of this historical development.

a.	Physiological	1st ____
b.	Superstitious	2nd ____
c.	Philosophical	3rd ____
d.	Analytical	4th ____
e.	Empirical	5th ____

---

2. Which of the following statements is correct concerning ancient explanations of human behavior?

   a. The belief was that the supernatural does not exist.

   b. The behavior of animals was directly related to the behavior of man.

   c. The behavior of man was attributed to the supernatural--it was believed that animal spirits or demons had invaded the body.

   d. A belief existed that behavior was some inner thing which could not be seen or heard.

3. Match the following.

   a. Made a complete break with any non-empirical approach

   b. Believed that "mental states" such as sensation, images, and feeling are the components of consciousness

   c. Attempted to relate psychology to man's adjustment to his environment

   1) Structuralism
   2) Behaviorism
   3) Imperialism
   4) Functionalism
   5) Psychophysics

____

4. Which statement is correct concerning the school of functionalism?

   a. Mental states make up man's behavior, and a man can be no more than the structure of his mental state.

   b. Certain areas of the brain control man's behavior.

   c. All things have a place in nature's plan, even man, if he would only live according to the golden rule.

   d. Functionalism relates psychology to man's adjustment to his environment; in particular, behavior to the "survival of the fittest" concept.

____

Now, check your answers on the next page.

ANSWERS TO SUMMARY PRE-QUIZ 1

1. 1-b, 2-c, 3-a, 4-d, 5-e
2. c
3. a-2, b-1, c-4
4. d

If all your answers are correct, go to Summary 2, page 17. If you missed one or more questions, go to the following page and go through Programed Sequence 1.

Programed Sequence 1

Historical Development of Psychology

OVERVIEW: In this sequence of frames, you will learn about the historical development of psychology. This will include primitive explanations, and later some philosophical concepts. You will also learn about the first major concepts of modern psychology.

---

1 Many primitives explain human behavior as being dependent on the work of spirits, good or evil.

Which statement below is correct?

a. A primitive might explain a man's unusual ability to run fast as being due to the deer spirit that possesses him.

b. Primitive explanations of man's behavior are generally superstitious.

c. Both of the above

d. None of the above

---

2 Until the Renaissance, logic and rational thought played an important part in the study of human behavior.

Which group of men would you consider as the most influential in forming the explanations of psychology during the Middle Ages?

a. The philosophers

b. The experimenters

3 Which of the following is based on the belief that spirits and demons control human behavior?

a. Structuralism

b. Psychophysics

c. Both of the above

d. None of the above

---

4 Select the statement which reflects the state of psychological explanation before the Renaissance.

a. Empirically-minded psychophysicists were putting the mind-body problem to the test.

b. The study of human behavior was the domain of the philosophers, who attempted to develop inferences concerning human behavior by using logic and reason.

---

5 During the Renaissance, the inductive method of investigation and a new attitude of respect for empirical evidence were becoming prevalent.

Which of the following would be consistent with this way of thinking?

a. Renaissance scientists tried to deduce every type of knowledge from ancient sources.

b. Renaissance scientists observed events and formulated general laws on the basis of such observations.

c. Both of the above

d. None of the above

6 In the early part of the 19th century, physiologists began to work on an experimental method of analysis of the nervous system. A particular problem of interest was "What physical stimuli cause a nerve fiber to 'fire'?"

Which of the following would be a result of this approach?

a. Such experiments would stimulate inquiries into the physiological bases of human thought, feeling, and behavior.

b. Such experiments tend to favor the idea that sensory and mental functions are localized in a particular part of the body rather than in a hypothetical "mind" separated from the body.

c. Both of the above

d. None of the above

---

7 Psychophysicists, too, concluded that the mind and body are inseparable and must be considered as a single integrated unit. They concerned themselves with studying the differential effects that various amounts of physical stimuli have on the perceptions of these stimuli.

Which form may such experiments take?

a. Varying the candle power of light intensity and determining the perceived brightness of it

b. Eliminating the basic assumption of the mind-body problem

8 The activity which studies perceived sensations as a function of the physical properties of the stimuli is called psychophysics.

Which of the following would psychophysics study?

a. The relationship between the spirit world and sensations

b. The relationship between philosophy and physiology

c. Both of the above

d. None of the above

---

9 A midshipman tells another midshipman, "Your horoscope indicates that you will flunk this course."

From which approach might you expect such an explanation about human behavior?

a. An experimental approach

b. A philosophical approach

c. Both of the above

d. None of the above

---

10 Which of the following is an example of psychophysics?

a. A person listens to a sound of particular pitch. The frequency of the sound is increased until the person reports a noticeable difference in pitch.

a. A rat was subjected to an increasing dosage of heat until his skin began to blister.

11 Toward the end of the 19th century, some approaches to psychology led to the development of certain "schools." The first of these schools was a laboratory group known as the "Structuralist School." Their main belief was that certain mental constructs form the structure of consciousness.

Which could you assume to be the basic concept of the Structuralist School?

a. Mental states such as sensation, images, and feeling form the structure of consciousness.

b. If you can't build with it or test for it, it isn't a part of behavior.

---

12 Functionalism, the next school, was based on the analysis of man's actions in adjusting to the conditions of his surroundings.

Which of the following would be of basic interest to the functionalists?

a. The functionalists analyze man in terms of his mental components.

b. The functionalists relate psychology to man's behavior in response to his environment.

---

13 To which school does the assertion that "mental states form the structure of consciousness" apply?

a. Experimental

b. Structuralist

14 Which of the following is true of the structuralist?

a. He tries to discover the psychological basis for certain behavior by studying conscious experience.

b. He uses theories derived from empirical studies of behavior as the foundation on which to build basic concepts concerning psychology.

---

15 A person attempting to attribute abnormal behavior to man's inability to adjust to our modern complex world might turn to which of the following for support?

a. Structuralist

b. Functionalist

---

16 A third school of psychology, the behaviorists, rejected such constructs as a soul, mind, or unconscious. The behaviorist accepts as data only what he can directly observe or test for.

Which of the following statements characterizes a behaviorist?

a. Controlled experimentation is necessary to the development of psychology.

b. Even though we all know that spirits do not exist, they may have a place in science because they allow us to explore unknowns.

17 Match the following.

- a. Made a complete break with any non-empirical approach
- b. Believed that mental states form the structure of consciousness
- c. Attempted to relate psychology to man's adjustment to his environment

1) Psychophysicist
2) Behaviorist
3) Structuralist
4) Functionalist

This is the end of Programed Sequence 1. Now, go to the next page and take the Quiz.

Summary Post-Quiz 1

Historical Development of Psychology

Answer the following questions as indicated in your Student Guide.

---

1. This section discusses the general historical development of psychology. Below are several general types of approaches. Arrange them in sequence.

a.	Empirical	1st	____
b.	Analytical	2nd	____
c.	Physiological	3rd	____
d.	Superstitious	4th	____
e.	Philosophical	5th	____

---

2. Which of the following statements is correct concerning ancient explanations of human behavior?

   a. The belief existed that the supernatural does not exist.

   b. The behavior of animals was directly related to the behavior of man.

   c. A belief existed that behavior was some inner thing which could not be seen or heard.

   d. The behavior of man was attributed to the supernatural, i.e., to animal spirits or demons that had invaded the body.

3. Match the following.

   a. Made a complete break with any non-empirical approach

   b. Believed that "mental states" such as sensation, images, and feeling formed components of consciousness

   c. Attempted to relate psychology to man's adjustment to his environment

   1) Imperialism

   2) Functionalism

   3) Structuralism

   4) Psychophysics

   5) Behaviorism

4. Which statement is correct concerning the school of functionalism?

   a. Functionalism relates psychology to man's adjustment to his environment; in particular, behavior to the "survival of the fittest" concept.

   b. Mental states make up man's behavior, and a man can be no more than the structure of his mental state.

   c. Certain areas of the brain control man's behavior.

   d. Believed that all things have a place in nature's plan, even man, if he would only live according to the golden rule.

Now, go to the next page and check your answers.

ANSWERS TO SUMMARY POST-QUIZ 1

1. 1-d, 2-e, 3-c, 4-b, 5-a
2. d
3. a-5, b-3, c-2
4. a

Now, go to Summary 2 on the next page.

Summary 2

Overgeneralization About Human Behavior

Most attempts at explaining human behavior are not really explanations, but merely generalizations about human behavior based on casual observations. The following list of common generalizations is provided to illustrate the overgeneralization concept. Go through the list and write either true (T) or false (F) for each item on a separate piece of paper.

1. Geniuses are usually more eccentric than people of average intelligence.
2. Only human beings, not animals, have the capacity to think.
3. Much human behavior is instinctive.
4. Slow learners retain what they learn better than fast learners.
5. Intelligent people form most of their opinions by logical reasoning.
6. A psychologist is a person who is trained to psychoanalyze people.
7. You can size up a person quite well in an interview.
8. When one is working for several hours, it is better to take a few long rests than several short ones.
9. The study of mathematics exercises the mind so that a person can think more logically on other subjects.
10. Grades in college have little to do with success in business careers.
11. Alcohol, in small amounts, is a stimulant.
12. There is a clear distinction between the normal person and one who is mentally ill.

13. Prejudices are mainly due to lack of information.
14. Competition among people is characteristic of most human societies.
15. The feature of a job that is most important to employees is the pay they get for their work.
16. It is possible to classify people fairly well as either introverts or extroverts.
17. Punishment is an effective way of eliminating undesirable behavior in children.
18. By closely watching a person's expression, you can tell the emotion he is experiencing.
19. The higher one aims for his goals in life, the more he is likely to accomplish and the happier he will be.
20. If a person is honest with you, he can usually tell you what his motives are.

None of the above items is true. That does not mean the statements are completely false. The one thing which they share in common is that they are all generalizations. Everyday speech is full of generalizations. Statements such as Australians are all athletic, Scots are all thrifty, gentlemen prefer blondes, a sailor has a girl in every port, etc., are examples of very broad, sweeping generalizations. Even though such statements have elements of truth in them, they are false in their basic assumptions. The problem in psychology is to differentiate between those generalizations which are very subtle half-truths, and those which have sufficient validity to be taken as truth.

A half-truth usually originates in some casual observation that has been overgeneralized, and the inferences made often result in some kind of stereotype. Often, the origin of a particular half-truth is lost, but it persists because of tradition. For example, many old wives' tales linger on in our general folklore even though scientific psychology has proven them false. Half-truths often become so widely accepted that they deter from the investigation of the subject.

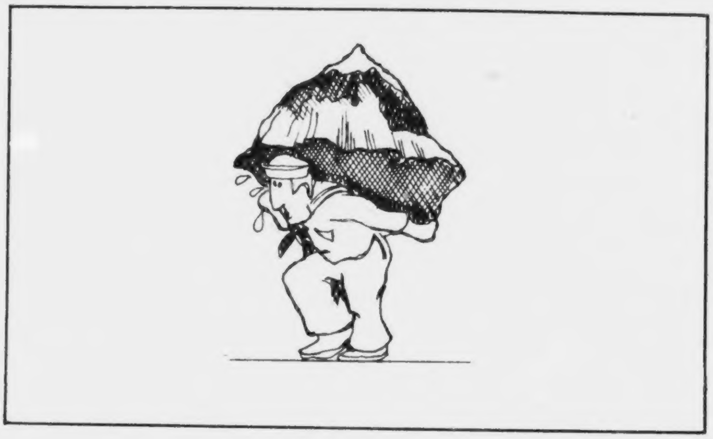


Figure 2. Sweeping Generalizations:
Men Can Move Mountains

This is the end of Summary 2. Now, go to the next page and take the Quiz.

Summary Pre-Quiz 2

Overgeneralization About Human Behavior

Answer the following questions as indicated in your Student Guide.

1. The statement "Italians make the best opera singers," is an example of which of the following?

   a. A half-truth

   b. A fact

   c. A generalization

   d. Both a and c above

2. Which statement explains the existence of half-truths about behavior?

   a. Half-truths exist because scientists cannot prove them completely right or completely wrong.

   b. Behavior observed in one person at one particular time may also be exhibited by other people having the same attributes.

   c. Half-truths usually originate in generalizations which are overstated.

3. Which of the following statements is true concerning generalizations?

  a. Generalizations about behavior inevitably lead to half-truths.

  b. Generalizations are statements which cannot be proven.

  c. Generalizations about human behavior often result from casual observations.

  d. None of the above

Now, check your answers on the next page.

ANSWERS TO SUMMARY PRE-QUIZ 2

1. d
2. c
3. c

If all your answers are correct, go to Summary 3, page 29. If you missed one or more questions, turn to the following page and go through Programed Sequence 2.

Programed Sequence 2

Overgeneralization About Human Behavior

OVERVIEW: In this sequence of frames, you will learn about the validity of generalizations. You will learn the cause of such generalizations and their effect when used in explaining human behavior.

1 A girl said, "I've met a couple of midshipmen and they all seem to be snobs." Which is true?

a. Midshipmen are snobs.

b. She must be overgeneralizing.

2 Half-truths usually start when someone occasionally observes something, then generalizes about it. Which could you assume?

a. That half-truths occur only when something can't be proven.

b. That the origin of half-truths is usually some casual observation that has been overgeneralized.

3 ENS McDow has just graduated from the Naval Academy and reported to the USS Dark for duty. McDow is seen carrying a load of about 60 books aboard the ship. Several of McDow's peers sneeringly make the comment that McDow had graduated No. 1 in his class. Some of the men believe that McDow is a little weird because he likes to read and study a lot.

Which of the generalizations below would be considered a half-truth?

a. With that kind of academic record, McDow must be very intelligent.

b. Anybody who spends that much time reading books would have difficulty being a practical officer.

---

4 Half-truths usually are generalizations about human behavior which deviate from the norm of the general population.

Which is true?

a. Half-truths are broad, sweeping generalizations about normal human behavior.

b. Half-truths are often used to explain eccentric human behavior.

c. Both of the above

d. None of the above

5 People find half-truths useful in explaining deviate human behavior because half-truths help form a standard view of all people who share these deviate attributes.

Which of the following is characteristic of a half-truth?

a. Inferences made from generalizations often result in some kind of a stereotype.

b. Whatever view is formed is only temporary, and no harm will be done.

---

6 Obviously, not all generalizations are half-truths. Which of the following examples illustrates a valid generalization?

a. CPO Donaldson, a veteran of 23 years of Navy service, is seen one night by some of his men at a local club having a few drinks. Immediately, one of the sailors chances to remark, "There's the chief drunk again." Actually, Donaldson has never been seen drunk since entering the service. After that night, everyone secretly refers to Chief Donaldson as "the Drunk."

b. CPO Mitchell, a veteran of 18 years of Navy service, is known throughout the Navy as one of the top CPO's in the Navy. Like many Navy men, Mitchell has had his ups and downs, but always comes out well. Everywhere Mitchell goes, people expect nothing but the best from him, and he generally lives up to their expectations.

7 Half-truths often become so widely accepted that they deter further investigation of the subject. Which inference is justified by that statement?

a. Most people feel that once an event has been "labeled" there is no need for continued investigation.

b. The stereotype of the opera singer as an Italian causes more Italian boys to aspire to become opera singers.

---

8 Select the phrase which does not apply to half-true statements.

a. Often broad, sweeping generalizations

b. Lead to formation of stereotypes

c. Must be accepted at face value

d. Tend to be used as labels, thereby discouraging further investigation

---

This is the end of Programed Sequence 2. Now, go to the next page and take the Quiz.

Summary Post-Quiz 2

Overgeneralization About Human Behavior

Answer the following questions as indicated in your Student Guide.

---

1. The statement, "Italians make the best opera singers," is an example of which?

   a. A fact

   b. A half-truth

   c. A generalization

   d. Both b and c above

---

2. Which statement explains the existence of half-truths about behavior?

   a. Half-truths usually result from overstated generalizations.

   b. Half-truths exist because scientists cannot prove them completely right or completely wrong.

   c. Behavior observed in one person at one particular time may also appear in other people of like attributes.

---

3. Which of the following statements is true concerning generalizations?

   a. Generalizations are statements which cannot be proven.

   b. Generalizations about human behavior often result from casual observations.

   c. Generalizations about behavior inevitably lead to half-truths.

   d. None of the above

Now, check your answers.

ANSWERS TO SUMMARY POST-QUIZ 2

1. d
2. a
3. b

Now, go to Summary 3 on the next page.

Summary 3

Differences Between Psychology and Psychiatry

The terms "psychology" and "psychiatry" are often confused. Psychology is classically defined as "the science of human and animal behavior." Psychiatry, on the other hand, is "a branch of medicine specializing in the study, diagnosis, and treatment of mental illness." These two disciplines overlap and complement each other in the areas of abnormal human behavior, psychoanalysis, and psychotherapy.

Psychology has developed into a large body of systematized knowledge that is now a teachable science. Systematized psychological knowledge is primarily concerned with learning, testing, social behavior; behavior which can be observed, recorded and studied.

The Comprehensive Dictionary of Psychological and Psychoanalytical Terms (English and English, 1964) differentiates between the professions in the following way.

> A psychologist is a person who has made an extensive study of psychology (usually the equivalent of 3 years of graduate study) under professional guidance.
>
> A psychiatrist, on the other hand, is (generally) a person licensed to practice medicine, who is engaged professionally in the prevention, diagnosis, treatment and care of mental illness.

This is the end of Summary 3. Now, go to the next page and take the Quiz.

Summary Pre-Quiz 3

Differences Between Psychology and Psychiatry

Answer the following questions as indicated in your Student Guide.

---

1. Which of the following statements is true of psychology?

   a. Humans are studied by psychologists because only humans exhibit abnormal behavior.

   b. Psychologists employ electric shock and drugs while administering therapy.

   c. Psychology is primarily concerned with the mind, thoughts and emotions.

   d. Psychology is a large body of systematized knowledge concerned with learning, testing, social behavior, etc.

---

2. Which of the following statements is true of psychiatry?

   a. Psychiatry is a branch of the behavioral sciences.

   b. Psychiatry deals primarily with the biological makeup of man.

   c. Psychiatry is a direct outgrowth of medicine concerned with mental disorders.

   d. Psychiatry is a branch of psychology concerned with the study of abnormal behavior.

3. Which of the statements best describes the distinctions between psychology and psychiatry?

   a. Psychiatry is practiced by doctors who specialize in mental disorders. Psychology is the study of the behavior of men and animals.

   b. The difference between psychology and psychiatry is that psychology is the scientific study of the behavior of men and animals, and psychiatry is the study of how all living things grow, repair their bodies, reproduce their kind, and carry on their bodily processes.

   c. Psychiatry is the study of the physical evolution of mankind, the origins of racial groups and the development of civilizations. It has provided many explanations concerning the behavior of different racial groups and its investigations are continuing to uncover new behaviors. Psychology is simply the study of the behavior of any organism.

   d. None of the above

---

4. Which of the following defines psychology?

   a. The science of the behavior of men and animals

   b. The study of the origins of racial groups

   c. The science of life

   d. A study of the physical evolution of mankind

Now, check your answers on the next page.

ANSWERS TO SUMMARY PRE-QUIZ 3

1. d
2. c
3. a
4. a

If all of your answers are correct, go to Summary 4, page 39. If you missed one or more questions, go to the next page and go through Programed Sequence 3.

Programed Sequence 3

Differences Between Psychology and Psychiatry

OVERVIEW: In this sequence of frames, you will learn the difference between psychology and psychiatry, and the factors which differentiate them from each other.

---

1 Psychology is the study of the behavior of men and animals. It is an attempt to explain why they behave in the way they do.

Which might you assume to be a function of psychology?

a. To attempt to explain animal behavior
b. To determine why people behave the way they do
c. Both of the above
d. None of the above

---

2 What is the science that studies the behavior of men and animals called?

a. Psychiatry
b. Psychology

3 Psychology is a large body of systematized knowledge which can be taught and which is the best foundation for developing an understanding of both normal and abnormal behavior. It includes all data relevant to any form of behavior.

Which of the following statements is true?

a. Psychologists may be concerned with conditions which affect learning.

b. Psychologists may be concerned with techniques appropriate to the correction of abnormal behavior.

c. Both of the above

d. None of the above

4 In the past, medical doctors were required to care for those who experienced mental disorders. The branch of medicine established specifically for the treatment of mental disorders is called psychiatry.

Which is true?

a. Psychiatry was an outgrowth of medicine.

b. Psychology was an outgrowth of psychiatry.

5 The main concern of psychiatry is the treatment of mental disorders.

Which could you assume?

a. Psychiatrists are often concerned with the behavior of rats in a maze.

b. Psychiatrists are often concerned with proper diagnosis and treatment of a patient whose behavior is abnormal.

6 Which of the following is a true statement concerning psychiatry?

a. Psychiatry is a direct outgrowth of medicine, and is concerned with mental disorders.

b. The primary subject of psychiatry is abnormal behavior.

c. Both of the above

d. None of the above

---

7 Match the following.

a. Science of behavior of men and animals

b. A direct outgrowth of medicine concerned with mental disorders

c. Studies the evolution and origin of man

d. Studies the physical makeup of man and applies it to other sciences

e. Systematized body of knowledge which forms the best foundation for developing and understanding behavior

1) Psychiatry

2) Psychology

3) Both of the above

4) None of the above

This is the end of Programed Sequence 3. Now, go to the next page and take the Quiz.

Summary Post-Quiz 3

Differences Between Psychology and Psychiatry

Answer the following questions as indicated in your Student Guide.

1. Which of the following statements is the definition of psychology?

   a. A study of the physical evolution of mankind

   b. The science of life

   c. The science of the behavior of men and animals

   d. The study of the origins of racial groups

2. Which of the following statements is true of psychology?

   a. Psychology is a large body of systematized knowledge concerned with learning, testing, social behavior, etc.

   b. Humans are studied by psychologists because only humans exhibit abnormal behavior.

   c. Psychology is primarily concerned with the mind, thoughts and emotions.

   d. Psychologists employ electric shock and drugs while administering therapy.

3. Which of the following is true of psychiatry?

   a. A branch of psychology concerned with the study of abnormal behavior

   b. A direct outgrowth of medicine concerned with mental disorders

   c. Deals primarily with the biological makeup of man

   d. A branch of the behavioral sciences

   ____

4. Which of the following statements best describes the distinctions between psychology and psychiatry?

   a. Psychiatry is the study of the physical evolution of mankind, the origins of racial groups, and the development of civilizations. It has provided many explanations concerning the behavior of different racial groups and its investigations are continuing to uncover new behaviors. Psychology is simply the study of the behavior of any organism.

   b. The difference between psychology and psychiatry is that psychology is the study of the behavior of organisms, and psychiatry is the study of how all living things grow, repair their bodies, reproduce their kind, and carry on their bodily processes.

   c. Psychiatry is practiced by doctors who specialize in mental disorders. Psychology is the study of the behavior of men and animals.

   d. None of the above

   ____

Now, check your answers on the next page.

ANSWERS OF SUMMARY POST-QUIZ 3

1. c
2. a
3. b
4. c

Now, go to Summary 4 on the next page.

Summary 4

The Study of Human Behavior Related to Principles of Leadership

The study of human behavior is directly related to leadership. An effective military leader must understand the relationship between one person and a group, or more specifically the relation of himself to his subordinates. In addition, knowledge of human behavior, on a psychological level, will dispel superstitious half-truths and allow a leader to understand why individuals and groups behave the way they do.

While dispelling half-truths (i.e., faulty generalizations), one must take care not to condemn all generalizations. Generalizations allow us to proceed beyond the present situation, formulate a principle, and predict or influence some future situation.

Prediction via generalization is not the only value of a principle. Principles may be useful in controlling or influencing a situation. To be of influential value,the generalization must be more rigorous and exact than is required for explanation. Hypotheses or theories which psychologists have rigorously tested can be used with confidence by a leader. If a leader understands human behavior, he will be able to influence the behavior of his subordinates to accomplish his mission in the manner desired, and to successfully motivate a group of people to accomplish a mission. Probably of greater importance than theories are certain procedures devised by psychologists. Such

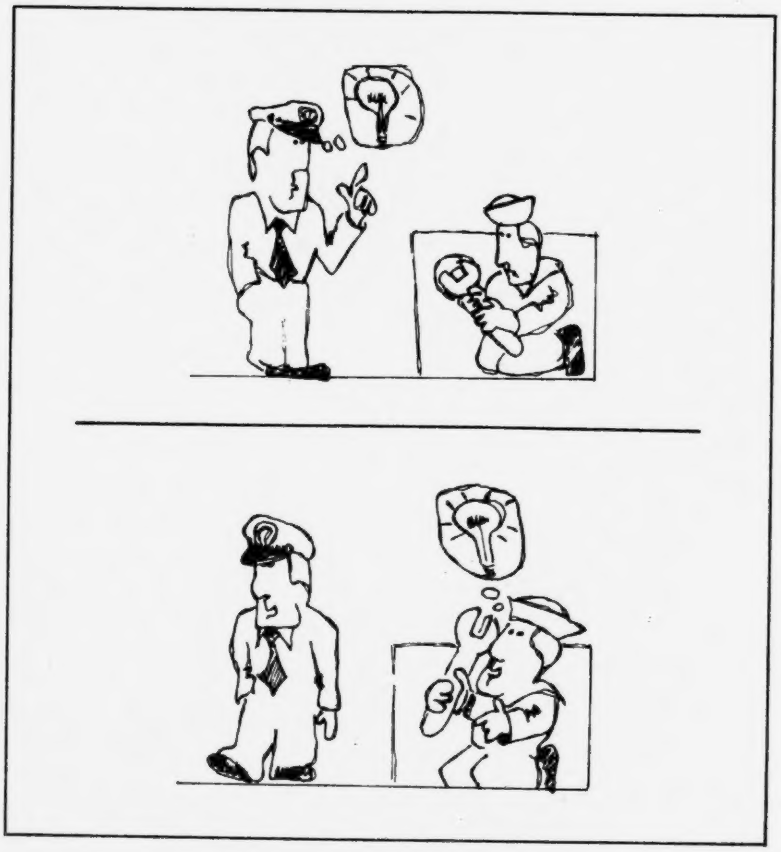


Figure 3. Motivation: Leader Implements Idea by Making Subordinate Think Idea is His Own

47

techniques as shaping behavior through differential rewards, or increasing the accuracy of performance through feedback, have been well established and will provide many solutions to leadership problems.

Present-day psychological research has developed many procedures for the modification of behavior which have been validated and tested. By having a good knowledge of these procedures and principles, the leader can efficiently and effectively influence the behavior of the individuals with whom he reacts. Psychological behavior-modifying procedures are generally of two types--training procedures, and motivational procedures.

Training procedures directly modify behavior to accomplish an objective. An example of this behavior modification is the technique used by the Armed Services that attempts to control the future behavior of the men by presenting them during training with problems that simulate real conditions.

Motivational procedures strive to impart knowledge relevant to motivating people to accomplish a mission. Proper motivation by the leader results in improvement of morale which increases the efficiency of performance by his subordinates.

This is the end of Summary 4. Now, go to the next page and take the Quiz.

Summary Pre-Quiz 4

The Study of Human Behavior Related to Principles of Leadership

Answer the following questions as indicated in your Student Guide.

---

1. Which of the following is/are true of generalizations?

   a. Generalizations develop into fact through tradition.

   b. They have predictive value.

   c. They are of no use to a leader.

   d. To be used as a basis for formulating a theory, a generalization must be more exact than is required for explanation.

---

2. Which phrase describes why it is valuable for the leader to be knowledgeable in procedures that have been developed by psychological research?

   a. To know how severely to discipline the men

   b. To effectively give rewards after losing control of a group situation

   c. To effectively control and influence people

   d. To explain human behavior

3. Why do we study psychology?

   a. To make predictions free of half-true generalizations, which often cloud good judgment

   b. To explain human behavior so that a leader can make reasonable predictions of the future actions his men may take, and make these predictions free of half-true generalizations, which too often cloud judgment

   c. To provide a leader with tested techniques that he may use to influence his men

   d. All of the above

Now, check your answers on the next page.

ANSWERS TO SUMMARY PRE-QUIZ 4

1. b, d
2. c
3. d

If all your answers are correct you have finished this segment. If you missed one or more questions, go to the next page and go through Programed Sequence 4.

Programed Sequence 4

The Study of Human Behavior Related to Principles of Leadership

OVERVIEW: In this sequence of frames, you will learn the reasons for studying human behavior, and how knowledge of human behavior can help you to influence and successfully motivate people.

---

1 There are many reasons for studying human behavior, but the primary purpose is to develop understanding of people. Basically, leadership is applied psychology.

Which would you say is the main reason for studying the science of human behavior?

a. To learn general principles which can be used in solving some of the problems of leadership

b. To learn psychology theories because they are interesting

---

2 Because psychology is an empirical (testable) science, its principles can be stated in a form which can be validated or rejected.

What would be another reason for studying human behavior?

a. To create psychological tests

b. To correct any superstitious half-truths that a leader may have before he studies psychology

3 Why do we study human behavior?

a. To correct superstitious half-truths

b. To learn valid techniques useful in influencing people

c. Both of the above

d. None of the above

---

4 A generalization is any inference that goes beyond the present data. Which of these is a generalization?

a. "Sir, every time the pressure reaches 50 PSI, the safety valve blows. The safety valve must be defective."

b. "Sir, even though we haven't tested them yet, I think all these valves are defective because they look just like the ones which broke down last week."

c. Both of the above

d. None of the above

---

5 All generalizations have potential predictive value. Given the generalization, "All restaurants in Paris serve delicious food," what might you predict?

a. That Italian restaurants are bad

b. That Rene's restaurant on the Left Bank in Paris serves good food

6 Generalizations which are too sweeping or imperfectly stated lead to faulty predictions. Such a generalization we call a:

a. Half-truth

b. Procedure

---

7 Valid, well-tested generalizations are most reliable for making predictions. But even invalid generalizations may have some predictive validity. Thus, what could one say about an invalid generalization?

a. It should be rejected if an alternate valid generalization is available.

b. If no alternative is available it may be helpful if used with caution.

c. Both of the above

d. None of the above

---

8 For the most part, well tested generalizations form the principles of psychology. Techniques that have been used to accomplish reliable changes in behavior are based on these principles.

Which of the following is a tested generalization?

a. To learn the Morse Code, one must practice.

b. Only the human animal has the ability to think.

9 A psychologist conducted an experiment and found that men scored lower on tests of finger dexterity than did women. Such a finding is:

a. Useful for prediction

b. Useful for influencing behavior

c. Both of the above

d. None of the above

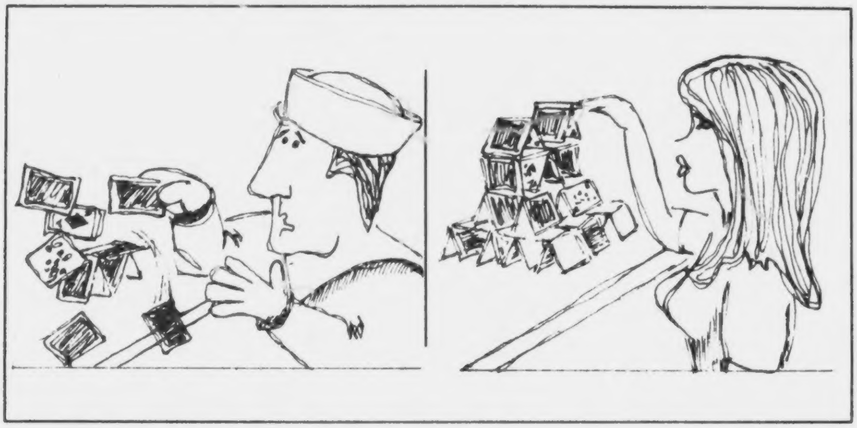


Figure 4. Explanation/Prediction: Manual Dexterity Difference Between Men and Women

10 A psychologist conducted an experiment and found that farm children who had driven a tractor learned to drive a car more rapidly than those who had not had this experience. In this case, the generalization might be used:

a. As an explanation useful for prediction

b. To allow us to design a procedure which would make learning to drive a car easier

c. Both of the above

d. None of the above

11 Which of the following examples illustrates a generalization useful for influencing behavior?

a. The old Navy belief that if you have a tattoo of a chicken on one leg and a pig on the other, you won't drown if you should fall overboard

b. A leader can implement his ideas by making the subordinate think the idea is his own.

---

12 Psychology deals with individual as well as with group behavior. What would be a reason for studying human behavior in a course of leadership?

a. To understand why individuals and groups behave the way they do

b. To be able to create reasons for excuses when things go wrong

---

This is the end of Programed Sequence 4. Now, go to the next page and take the Quiz.

Summary Post-Quiz 4

The Study of Human Behavior Related to Principles of Leadership

Answer the following questions as indicated in your Student Guide.

---

1. Which of the following statements is/are true of generalizations?

   a. They have predictive value.

   b. They are of no use to a leader.

   c. To be used as a basis for formulating a theory, a generalization must be more exact than is required for explanation.

   d. Generalizations develop into fact through tradition.

---

2. Which of the following statements describes why it is valuable for the leader to be knowledgeable in procedures that have been developed by psychological research?

   a. To explain human behavior

   b. To effectively give rewards after losing control of a group situation

   c. To know how severely to discipline the men

   d. To effectively control and influence people

3. Why should a leader study psychology?

   a. To learn tested techniques that he may use to influence his men

   b. To be able to make predictions free of half-true generalizations, which often cloud good judgment

   c. To understand human behavior so as to be able to make reasonable predictions of the future actions his men take, and to make these predictions free of half-true generalizations, which too often cloud judgment

   d. All of the above

   ____

Now, check your answers on the next page.

ANSWERS TO SUMMARY POST-QUIZ 4

1. a, c
2. d
3. d

This is the end of Part Two, Segment I.

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment I
Introduction to Psychology

Progress Check

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

INTRODUCTION TO PSYCHOLOGY

PROGRESS CHECK

Question 1.

An early school of psychology concerned itself with the study of the total behavior and experience of the individual and the function served by this behavior in an individual's adjustment to his environment.

Select the name usually given to this approach to psychology.

a. Behaviorism
b. Structuralism
c. Empiricism
d. Functionalism

Question 2.

A prominent school of psychology stressed that if psychology was to be considered a truly empirical science, it should concern itself only with observable and testable behavior.

Select the name usually given to this approach to psychology.

a. Structuralism
b. Functionalism
c. Empiricism
d. None of the above

Question 3.

If one resorts to using half-truths in explaining behavior, the effect is likely to be:

a. An acceptable set of generalized, non-stereotyped inferences

b. Widespread unwillingness to accept the explanation because half-truths have insufficient validity to be taken as truth

c. A wide acceptance of the half-truths as truths and a deterence from further investigation of the subject

d. An acceptance of general folklore as truth and a deterence of further generalization

---

Question 4.

Select the statement which explains the existence of half-truths concerning human behavior.

a. Many psychologists are trained so thoroughly that their ability to communicate is impaired.

b. Behavior theory is generally abstract, and permits students to reach erroneous conclusions.

c. Many people overgeneralize after only casual observation of behavior.

d. Behavior theory, by its nature, is extremely nebulous, and accurate conclusions are becoming increasingly difficult to establish.

Question 5.

Select the phrase which best completes the following sentence.

The difference between psychology and psychiatry is that:

a. Psychology is the study of the mind, thought, and feelings, while psychiatry is the study of the behavior of organisms.

b. Psychology is an outgrowth of medicine and psychiatry is an academic discipline.

c. Psychology is the study of the behavior of organisms, and psychiatry is the study of the mind, thoughts, and feelings.

d. Psychology is a more narrow approach to behavior than is psychiatry.

Question 6.

Which of the following best describes the defining attributes of psychology?

a. Cognition, abnormality, and characteristic psychoses.

b. A systematized body of knowledge which can be taught with behavior representing the main subject because it alone can be observed, recorded and studied.

c. Emphasis on animal behavior studies as the foundation for developing an understanding of behavior.

d. Mind, thoughts, and feelings are the basis of behavior, and social interaction is the vehicle used by psychologists to reach individuals.

Question 7.

Select the phrase which best completes the following sentence.

It is valuable for a midshipman to study human behavior in a leadership course because:

a. Mission accomplishment is based on the correct application of learned psychological principles.

b. An understanding of human behavior is a universal criterion utilized by promotion boards.

c. An understanding of human behavior can lead to more efficient and more effective leadership and mission accomplishment.

d. An understanding of human behavior enhances the character of the officer concerned.

Question 8.

Select the words which correctly complete the following sentence.

Psychiatry is a direct outgrowth of __________, and is concerned with __________ disorders.

a. Psychology, social

b. Sociology, physical

c. Anthropology, emotional

d. Medicine, mental

Question 9.

Select the statement which identifies why an officer should be able to explain human behavior.

a. An officer can provide more professional psychological advice to his men.

b. An officer can better identify those statements about human behavior which are overgeneralizations of half-truths.

c. An officer can devise more sophisticated methods of coercing his men to act in an abnormal manner.

d. An officer will be promoted faster if he can apply modern psychological methods to the leadership techniques generally found in the Armed Forces.

Question 10.

Select the statement which identifies a benefit derived from the leader's ability to influence human behavior.

a. The leader's ability to influence human behavior will gain the attention of his superiors who will consider him for more interesting and challenging assignments.

b. The leader's ability to influence human behavior will result in deficient training techniques, thereby endangering the lives of many men who are attempting to accomplish a routine mission.

c. The leader's ability to influence human behavior can result in the more efficient, effective accomplishment of his mission.

d. All of the above

PROGRESS CHECK ANSWER AND REMEDIATION FORM

PART Two SEGMENT I

REMEDIATION TEXT Syndactic Text - VOL II-A

ITEM	ANSWER	REMEDIATION REFERENCE
1	d	Summary 1, Page 3
2	d	Summary 1, Page 3
3	c	Summary 2, Page 19
4	c	Summary 2, Page 18-19
5	c	Summary 3, Page 29
6	b	Summary 3, Page 29
7	c	Summary 4, Page 39
8	d	Summary 3, Page 29
9	b	Summary 4, Page 39
10	c	Summary 4, Page 39
11		
12		
13		
14		
15		

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment II
Behavior and Its Observation

Audio Panel Book
(IIAPB)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

FOREWORD

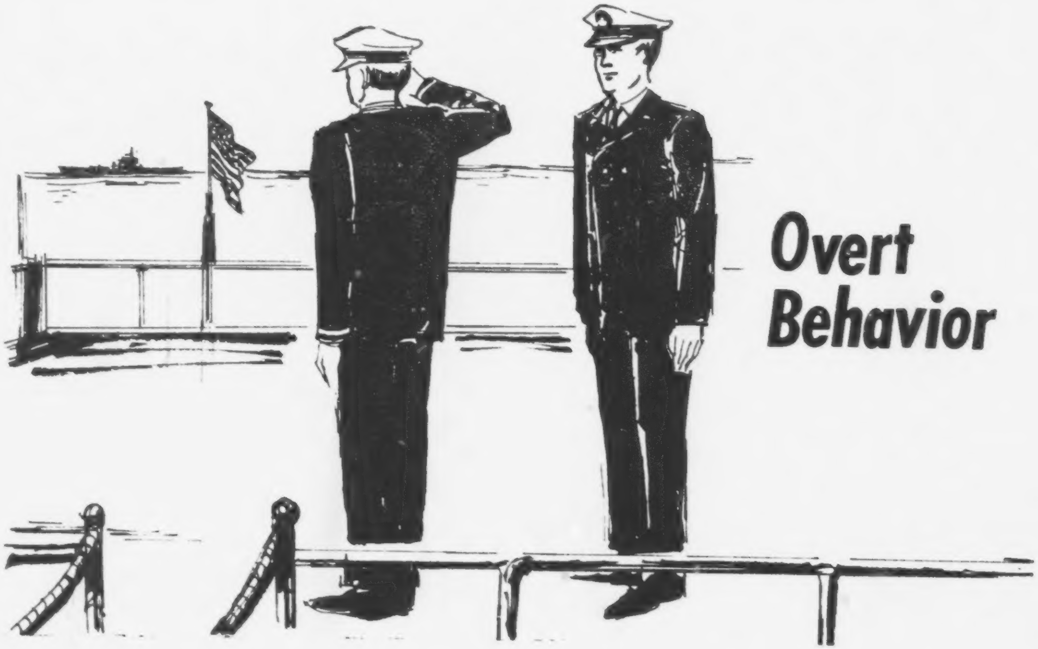
"Little minds are interested
in the extraordinary; great
minds in the commonplace."

Elbert Hubbard

A prominent biologist tells the story of his early training under Louis Agassiz, the famed Swiss zoölogist. When he reported to Professor Agassiz to begin his study, the biologist was seated at a table on which lay a fish. The young student, after looking at the fish for several hours, finally reported back to the professor asking what needed to be done. Agassiz asked him, "What did you see on the table?" When he responded, "Nothing but a dead fish," he was told to go back and check again. Several hours later he worked up his courage to report again that all he saw was a fish. It was in his third day that the aspiring student, out of a sense of frustration and boredom, began to note some of the features; the position and patterning of the scales, the texture and structure of the corpus and, almost without realizing it, began to make notes and diagrams on what he was discovering. He was there until Professor Agassiz stopped by to check with his question, "What do you see?" The student almost exploded with enthusiasm about what he was learning from the observation, and showed the professor his notes and diagrams. Professor Agassiz said, "You are beginning," and went away smiling.

BEHAVIOR AND ITS OBSERVATION

Item 1.


Overt
Behavior

Question 1.

A seaman has been seriously injured aboard a ship. The Executive Officer brings to the Captain the following report from the Medical Officer: The injured seaman can be treated aboard ship, but he would receive better treatment if flown to a hospital ashore.

Which of the following responses made by the Captain are OVERT, i.e., can be readily observed or detected by others? (There may be more than one correct answer to this question.)

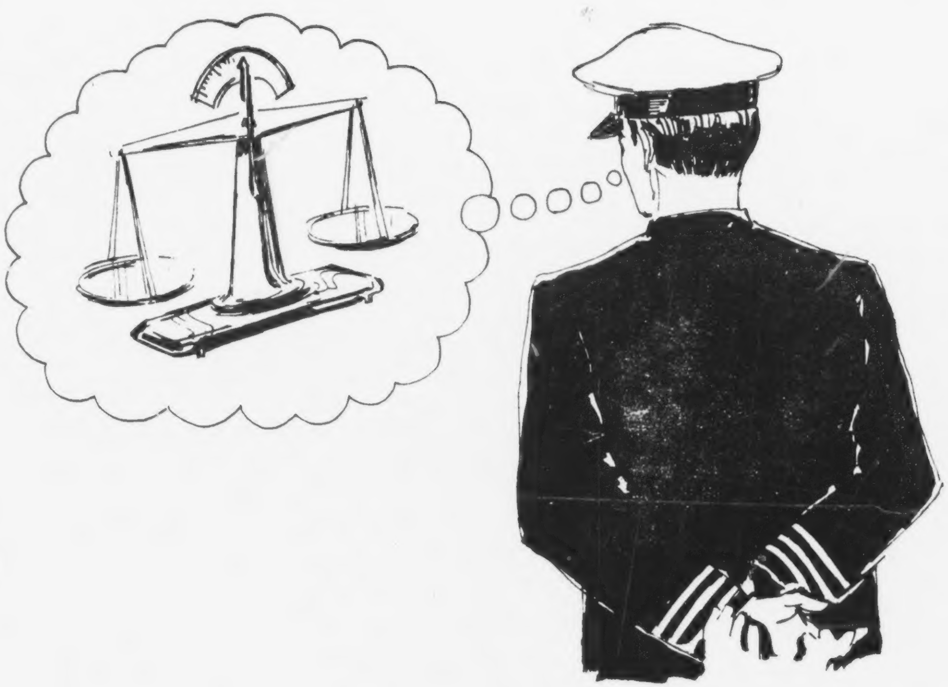
a. He asks the Executive Officer to stand by for a few minutes.

b. He considers the possible consequences of each alternative.

c. He thinks about the cost in time and man-hours to send the seaman ashore.

d. He gives his decision to the Executive Officer.

Item 2.



Question 2.

A midshipman follows the proper firing line procedures as he prepares to fire his rifle:

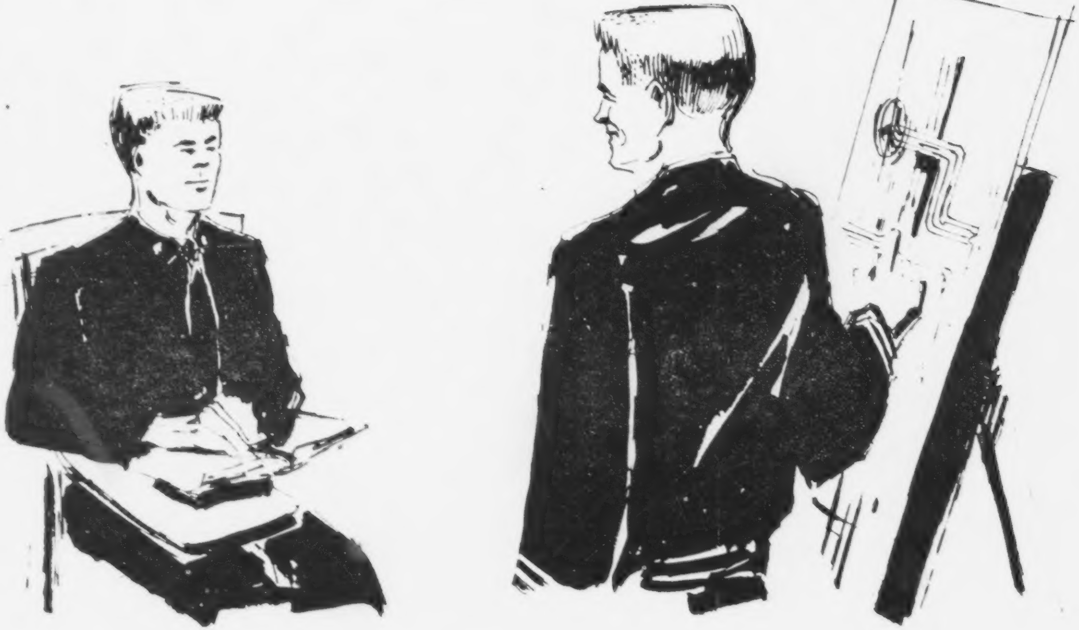
1. He properly positions himself and his weapon.
2. He concentrates on the sight picture.
3. He controls his breathing.
4. He squeezes-off the round.

Which of the foregoing behaviors should be identified as OVERT behaviors and which should be identified as COVERT behaviors?

a. Behaviors 1 and 4 are overt, and behaviors 2 and 3 are covert.

b. Behaviors 1 and 3 are covert, and behaviors 2 and 4 are overt.

Item 3.



Question 3.

Which of the following responses reflect AFFECTIVE behavior? (There may be more than one correct answer to this question.)

a. A sailor's neck gets red as he is being congratulated by his fiancee's mother.

b. A midshipman thinks about last night's date.

c. A junior officer begins to sweat and shake as he is going into battle.

d. A Captain greets his men as he boards ship.

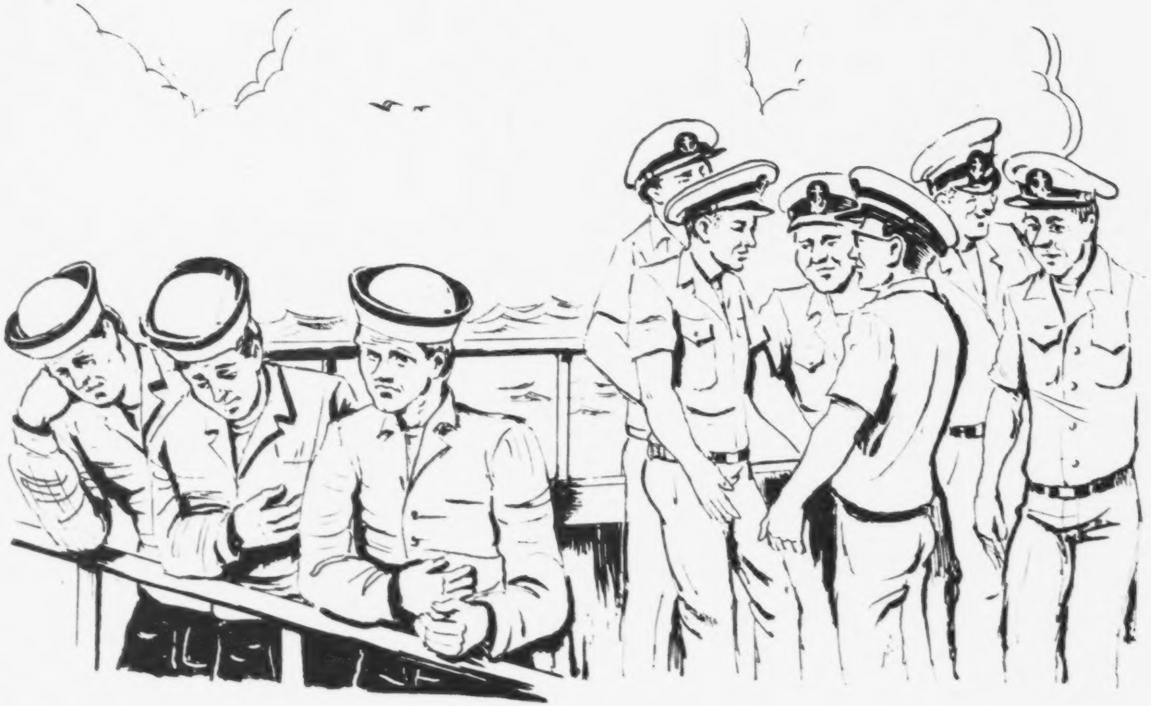
Question 4.

Match the following. (Note: There may be more than one description of behavior matched against any one kind of behavior. One or more of the descriptions may not match any of the three kinds of behavior.)

a. Covert behavior
b. Affective behavior
c. Overt behavior

1. Verbal and motor responses which can be readily observed by others
2. Behavior which cannot be readily observed by others
3. Emotional behavior which can be inferred from verbal or motor responses
4. All motor behavior

Item 4.



Question 5.

Which one (if any) of the following describes a NATURAL observation?

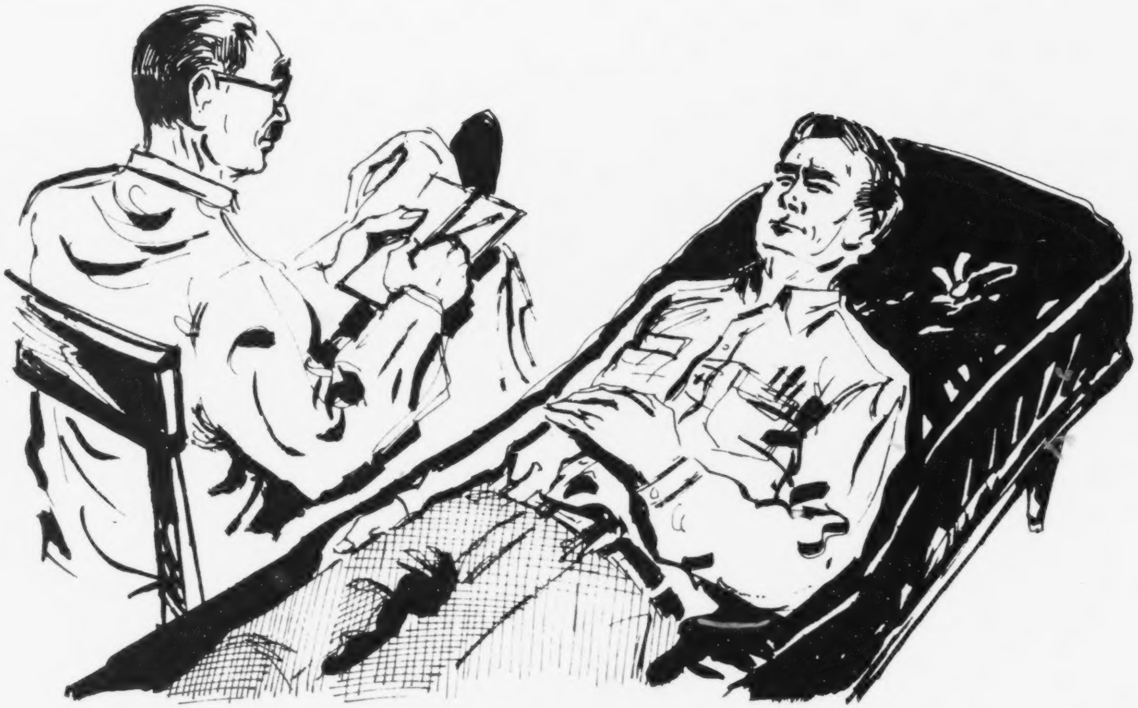
a. You pass by the battalion office and notice that a Form 1 is posted.

b. You count the number of people on the Form 1 who also will be restricted with you this weekend, and then you count the total number of people from your battalion who are on report for this week.

c. Both a and b above

d. Neither a nor b above

Item 5.



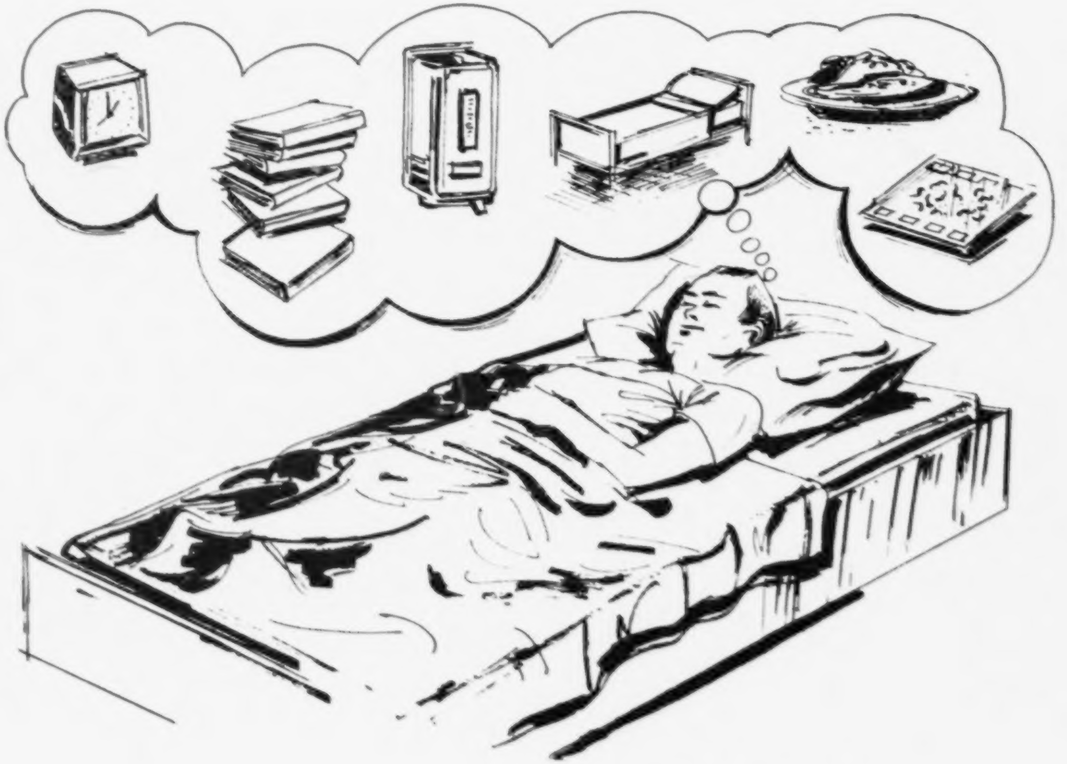
Question 6.

Match the following. (Note: There may be more than one description matched against any one kind of behavior.)

a. Casual observation
b. Natural observation
c. Introspective observation

1. Describing one's feelings after seeing a fellow officer wounded in battle
2. Non-systematic and simple observation of behavior
3. Noting and recording the number of times an individual stutters during a speech
4. An observation whose validity cannot be checked by another observer
5. Describing one's sensations when submerging in a submarine for the first time
6. Overhearing a conversation at a beach while on shore leave

Item 6.



Question 7.

A sailor feels very ill when he goes to sea for the first time. The ship's Medical Officer provides treatment and the sailor soon feels relief.

Which definitions correctly describe the relationships between the variables?

a. Independent variable: the way the sailor feels
Dependent variable: treatment

b. Independent variable: the way the sailor feels
Dependent variable: not stated in the situation

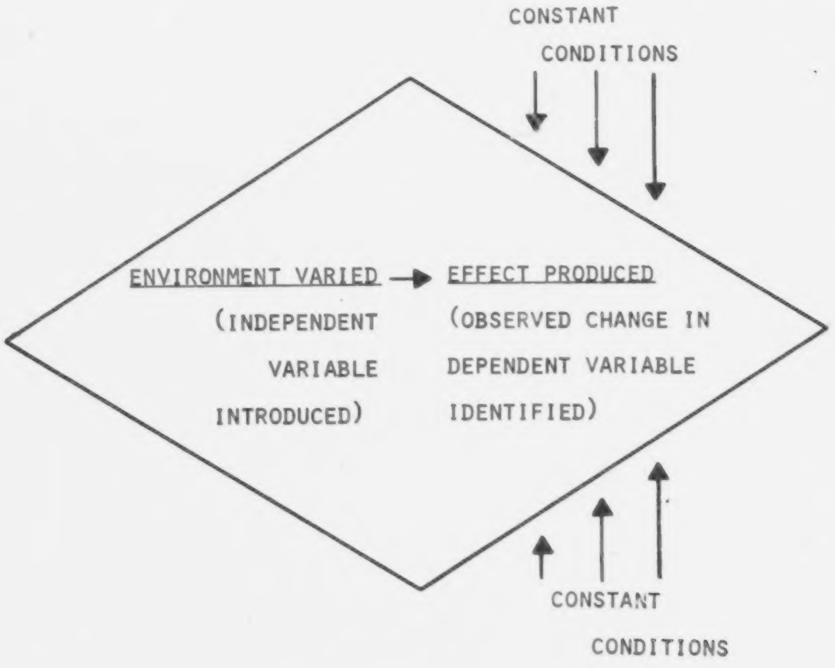
c. Independent variable: treatment
Dependent variable: the way the sailor feels

d. Independent variable: not stated in the situation
Dependent variable: treatment

Item 7.

1. IDENTIFY THE DEPENDENT VARIABLE.
2. INTRODUCE AN INDEPENDENT VARIABLE.
3. HOLD ALL OTHER CONDITIONS (RELEVANT VARIABLES) CONSTANT.
4. OBSERVE RESULTS.

Item 8.


CONSTANT
CONDITIONS
ENVIRONMENT VARIED
(INDEPENDENT
VARIABLE
INTRODUCED)
EFFECT PRODUCED
(OBSERVED CHANGE IN
DEPENDENT VARIABLE
IDENTIFIED)
CONSTANT
CONDITIONS

Question 8.

Because the Physical Education Department was interested in the effects of water temperatures on swimming performance, it decided to apply the experimental method and varied the temperature of the natatorium from 80 degrees Fahrenheit to 50 degrees Fahrenheit to observe the swimming times of the class related to the different temperatures.

Which aspect of the experimental method was NOT adequately specified in the foregoing description?

a. Identifying the dependent variable
b. Introducing the independent variable
c. Holding constant all other conditions
d. Observing the experimental results

Item 5.

RESULTS OF EXPERIMENTAL METHOD

1. DESCRIPTION
2. PREDICTION
3. CONTROL

Question 9.

After observing the effects of various water temperatures on Midshipmen's activities, the Physical Education Department heats the natatorium to 87 degrees Fahrenheit--the temperature which previously produced optimum performance.

What outcome of the experimental method is exemplified by this behavior?

a. Prediction
b. Extrapolation
c. Description
d. Control

Question 10.

Match the definitions.

a. Independent variable

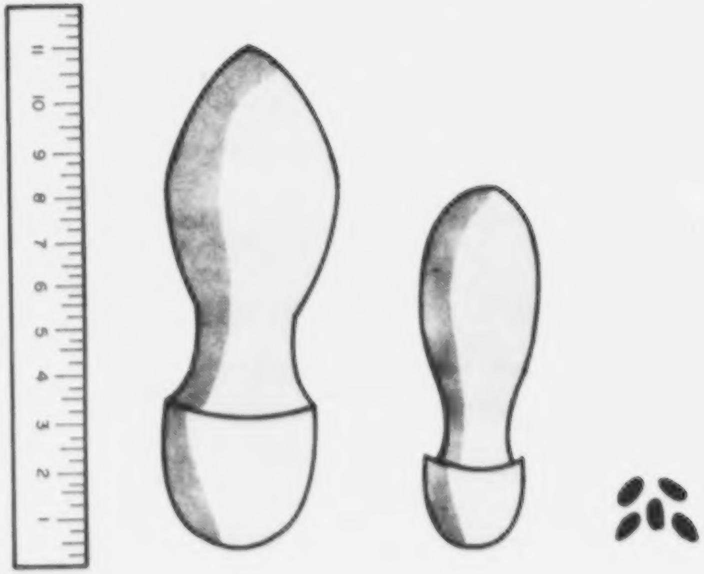
b. Dependent variable.

1. A variable that changes as the result of a change in the environment introduced by the experimenter.

2. A variable which is manipulated in the hope of producing a reliable change in another variable.

3. A variable which cannot be manipulated.

Item 10.


11
10
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3
2
1

Item 11.

OPERATIONAL DEFINITION

Question 11.

Which of the following sentences defines "fear" in terms of the operations used to measure it?

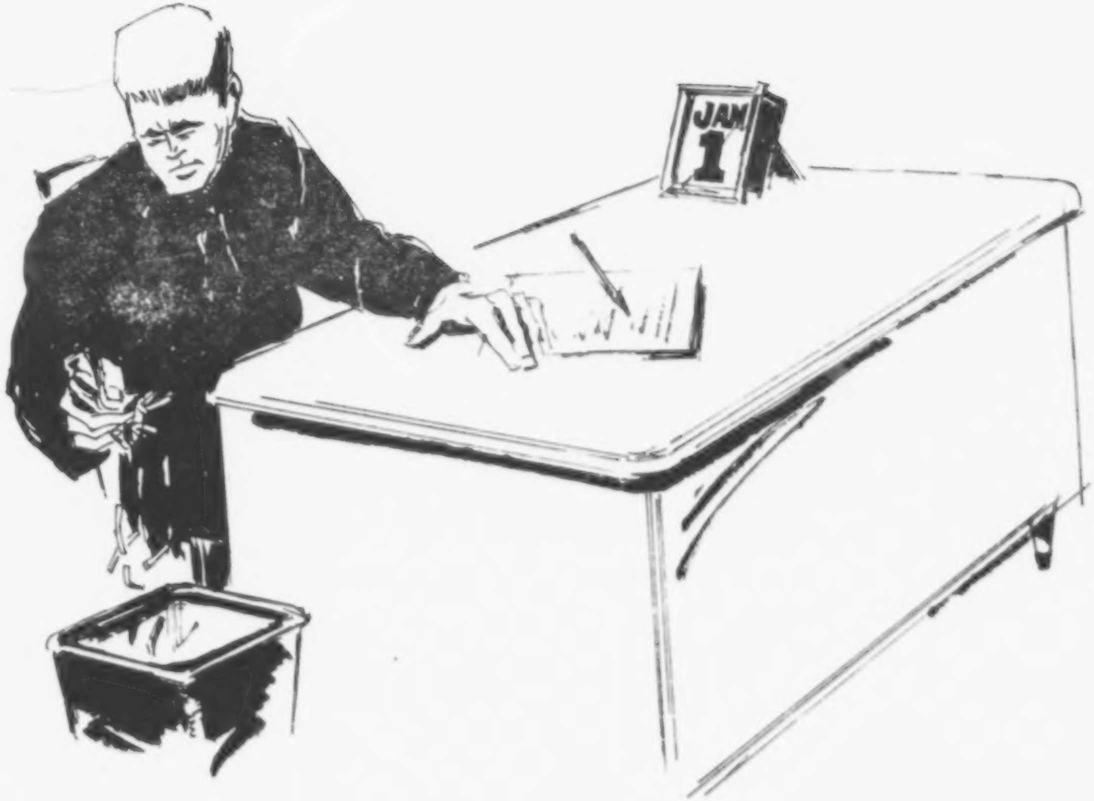
a. Fear is any conscious state which occurs under stress produced by the environment.

b. Fear is an ego-drive which is derived from consciousness of the environment.

c. Fear occurs when a mild, but unexpected electric shock is received by an individual.

d. Fear is any increase in heart-rate which occurs when an individual is given a mild electric shock.

Item 12.



Question 12.

A friend tells you that he is going to the basketball game. On the way, he decides instead to spend the afternoon searching for a June Week rental. What would be a good operational definition of his behavior?

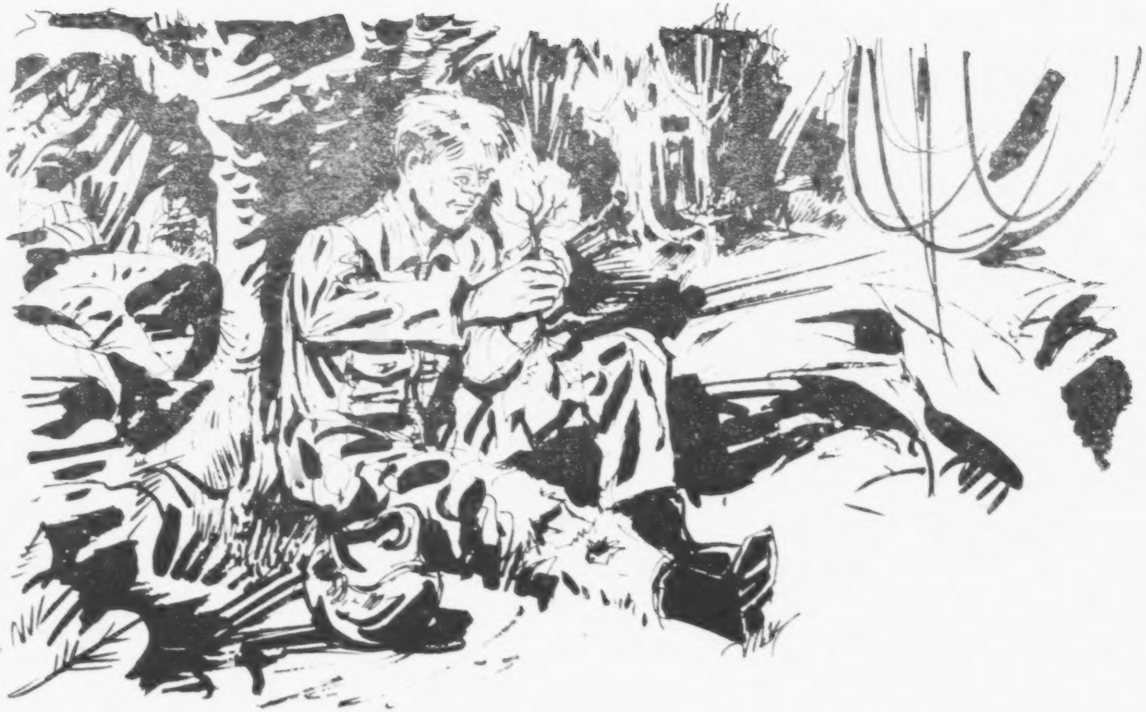
a. His behavior shows intention-performance congruency.

b. His behavior shows intention-performance incongruency.

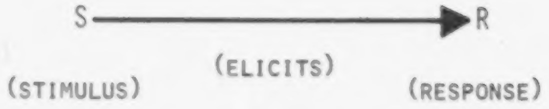
c. His behavior shows that he changes his mind easily.

d. None of the above

Item 13.



Item 14.


S
R
(STIMULUS)
(ELICITS)
(RESPONSE)

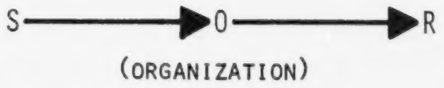
Question 13.

Match all of the following examples, numbered 1 through 5, with the terms which identify them following the letters a and b.

a. Stimulus
b. Response

1. Hearing the reveille bell
2. Saluting a superior officer
3. An environmental condition which elicits behavior
4. Aiming a weapon at the target
5. Behavior resulting from antecedent condition

Item 15.


S
O
R
(ORGANIZATION)

Question 14.

Which one of the following is the correct definition of organization?

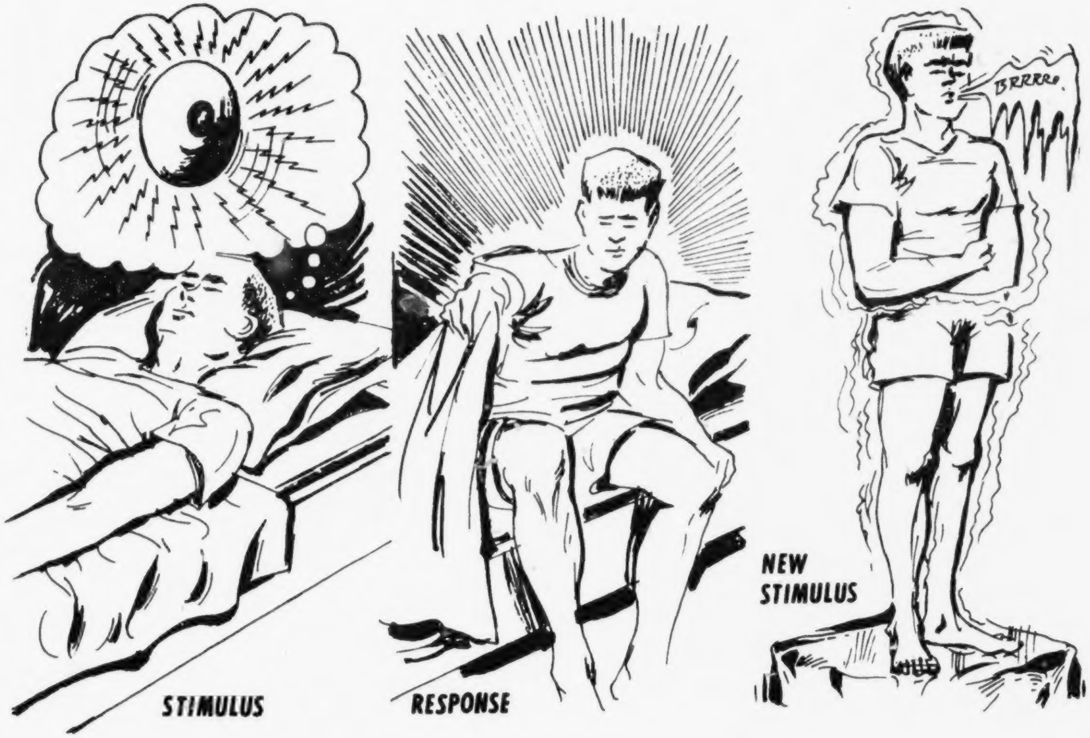
a. Covert processes by which sensory information is structured and assimilated

b. Activities by which organisms attempt to meet social and biological needs

c. Anything which an individual says or does in reaction to environmental conditions

d. Observable processes by which we assimilate and structure sensory information

Item 16.


STIMULUS
RESPONSE
NEW STIMULUS
BRRRRR

Question 15.

During the course of a routine, periodic inventory check, the squadron navigation officer notes that his supply of West Coast aeronautical charts is running low. Therefore he processes his request for replacement stocks. In a short time the pilot navigation packets and master files are fully restocked.

Which of the following are truly representative of that situation? (There may be more than one correct answer to this question.)

a. The officer's title is a stimulus.
b. The stimulus is not stated.
c. Shortage of charts is a stimulus.
d. The low supply of charts is a response.
e. Processing an order for charts is a response.

Question 16.

1. In a battle, a frigate is hit by a torpedo.

2. The Damage Control Assistant considers his past experience in such a situation, his technical knowledge and all elements of the situation.

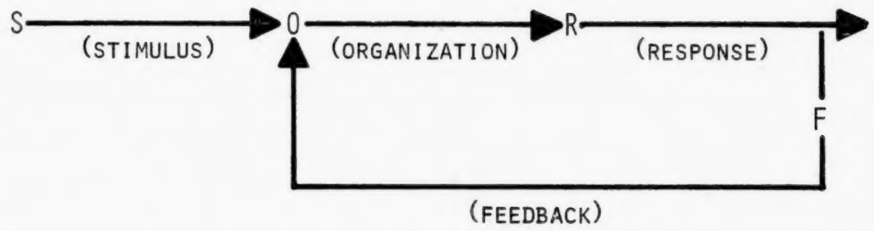
3. The Damage Control Assistant orders emergency repairs.

4. The Damage Control Assistant receives a report from the damaged area that flooding has now been confined to two compartments.

Which of the following terms technically apply to the four situations listed above? (There may be more than one correct response to this question.)

a. Organization
b. Response
c. Feedback
d. Stimulus

Item 17.


S
(STIMULUS)
O
(ORGANIZATION)
R
(RESPONSE)
F
(FEEDBACK)

Question 17.

Which one of the following should you select as the best model for adjustive behavior?

a. Stimulus-organization-response-organization-feedback-response
b. Stimulus-organization-response-feedback-stimulus
c. Stimulus-feedback-organization-response
d. Stimulus-response-feedback-organization-response

Question 18.

Which represents the correct definition of adjustive behavior?

a. A person displays adjustive behavior when--as a consequence of responding to a particular stimulus, thereby effecting a change in the environment which provides him with feedback--he modifies his future behavior.

b. A person displays adjustive behavior when--as a consequence of responding to a particular stimulus--he effects a change in his environment.

Question 19.

Which of the following provides a good definition of feedback? (There may be more than one correct response to this question.)

a. Any stimulus which is an environmental condition

b. Any stimulus which serves to inform an individual of the suitability of his output

c. Any stimulus which provides knowledge of results

d. Any response which is a modification of previous behavior

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment II
Behavior and Its Observation

Progress Check

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

BEHAVIOR AND ITS OBSERVATION

PROGRESS CHECK

Question 1.

As Officer-Of-The-Deck, in port, you have received a relay of instructions to "Send the Captain's gig to the Pierpoint Landing."

1) You wonder where the gig crew is at this moment.

2) Your stomach tenses momentarily as you anticipate an "angry" Captain waiting for his gig which does not show up.

3) You verbally give the order "Call away the gig."

4) You continue with your routine duties.

How should you classify the foregoing examples of behavior (affective, covert or overt)?

a. 1 and 2 (covert), 2 (affective), 3 and 4 (overt)
b. 1 and 4 (overt), 2 (covert), 1 and 2 (affective)
c. 3 and 4 (affective), 1 and 4 (overt), 2 (covert)
d. 3 and 4 (overt), 2 (covert), 1 and 2 (affective)

Question 2.

You have noticed over a period of time that you have a tendency to become drowsy during the class periods which immediately follow lunch. These classes are important so you decide to take notice of the amount and kind of food which you eat for lunch, and see if you are still drowsy if you exercise immediately after lunch. You inquire of your classmates to see if they experience the same difficulties. You compare your observations with their observations.

Which type of observation had you employed?

a. Natural

b. Casual

c. Introspective

d. None of the above

Question 3.

Which of the following correctly defines the term "independent variable"?

a. An independent variable is a condition which the experimenter alters in the hope of producing a change upon the dependent variable.

b. An independent variable is a condition which the experimenter wishes to change by the introduction and manipulation of the dependent variable.

c. An independent variable is a condition which the experimenter keeps constant throughout the experiment.

d. None of the above

Question 4.

Identify the four components of the experimental method as they are exemplified below.

1) A company commander wishes to improve performance in blinker drills of all midshipmen 4/c of his company.

2) He decides to see what effect the knocking off of Plebe rates during training period would have on performance.

3) He ascertains that each midshipman gets the same amount of time for drills and is given identical instructions.

4) He records the number of errors made at each practice session, and notes the midshipmen's final performance at the blinker drill competition. He compares this record with the record of Plebes at previous blinker drill competitions, and sees what improvement, if any, has taken place.

a. 1 dependent variable, 2 independent variable, 3 observation, 4 control

b. 1 independent variable, 2 dependent variable, 3 control, 4 observation

c. 1 dependent variable, 2 independent variable, 3 control, 4 observation

d. 1 observation, 2 control, 3 dependent variable, 4 independent variable

Question 5.

MIDN Able indicates to his officer representative that he would like to attend Sunday evening make-up period of instruction. However, he fails to show up for the class.

Which of the following would constitute a good operational definition of the midshipman's behavior?

a. The midshipman displays intention-performance congruency.

b. The midshipman displays positive-performance incongruency.

c. The midshipman displays intention-performance incongruency.

d. None of the above

Question 6.

Which one of the following best illustrates an "operational definition" of "hunger"?

a. A subject displays hunger if he eats when food is presented after a specified period of food deprivation.

b. Hunger is a condition of the human body when there is great appetite or need for food.

c. This is any condition of an organism where there is great desire such as a "hunger after truth and justice."

d. Hunger is a form of behavior which can be identified as a longing, hankering, wishing, yearning, craving or coveting.

Question 7.

Examine the following situations.

1) The group of migratory birds took flight and headed south for the winter.

2) The midshipman put aside his books, assembled his homework, undressed, and quickly fell asleep when he went to bed.

3) You anticipate a traffic signal change, prepare to slow down, change your mind and move out when you notice in the rear-view mirror that a car is following too closely.

4) The sunrise at sea caused the ship to cast long shadows and created miniature rainbow colors in the spray as it broke from the swells.

Which one of the foregoing situations best describes the interaction of stimulus, organization, response and consequent feedback?

a. 1

b. 2

c. 3

d. 4

Question 8.

1) A pilot who is commencing a landing sequence finds an "unsafe" landing gear down indication.

2) He elects to take the field arresting gear.

3) He drops his hook and informs the tower of what he intends to do.

4) The tower controller clears him to land.

Match the above steps with the elements listed below.

A. Feedback

B. Stimulus

C. Organization

D. Response

Which is the correct set of answers?

a. 4-A, 1-B, 2-C, 3-D

b. 3-A, 4-B, 1-C, 2-D

c. 1-A, 4-B, 2-C, 3-D

d. 2-A, 3-B, 4-C, 1-D

Question 9.

Identify the best operational definition of adjustive behavior.

a. A person displays adjustive behavior when he adjusts the demands made upon him by biological and social needs.

b. A person displays adjustive behavior when, after making a response to a particular stimulus, as a result of which a change in the environment occurs which provides feedback, he modifies his future actions.

c. A person displays adjustive behavior when he responds to a stimulus and thereby changes his environment.

d. A person displays adjustive behavior through organization.

Question 10.

Which one of the following is the best definition of a response?

a. Anything a person says or does: A reaction to environmental conditions.

b. Any behavior-eliciting condition in the environment.

c. That component of a system which signals deviation of the output from a defined condition.

d. The covert process by which we assimilate and structure sensory information.

PROGRESS CHECK ANSWER AND REMEDIATION FORM

PART Two SEGMENT II

REMEDIATION TEXT Audio Script - VOL II-A

ITEM	ANSWER	REMEDIATION REFERENCE
1	a	Pages 1-3
2	a	Pages 3-6
3	a	Page 7
4	c	Pages 7-9
5	c	Pages 13-14
6	a	Pages 11-15
7	c	Pages 16-19
8	a	Pages 16-19
9	b	Page 15
10	a	Pages 15-16
11	☐	
12	☐	
13	☐	
14	☐	
15	☐	

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment II
Behavior and Its Observation

Audio Script
(LATS)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

BEHAVIOR AND ITS OBSERVATION

Most sciences are easy to define. Biology is the science of life; Astronomy, the science of the stars. But, how should you define the word "psychology"? Many of us think of it as the "science of the mind." Psychologists, however, consider this description as being limiting and inexact. They prefer to call psychology the "science of behavior."

In this session, we will examine the three basic types of behavior. We will discuss how behavior may be observed and measured. Finally, we will examine ways in which behavior is affected by different external factors, or stimuli. (Pause)

Now look at Item 1.

An officer salutes as he steps on deck, before he formally requests permission to come aboard. This is proper military courtesy. And, it is also an example of what is properly termed "overt behavior." Thus, overt behavior describes any behavior which can be readily observed or detected by others. The foregoing example is one of an unlimited number of activities which occur daily in the lives of all of us. Because all of these activities involve motion, they are classified as motor responses. Note, however, that people also respond by using words. These are called verbal responses and they may be spoken or written. The spoken responses are interpreted by the ear and the written responses are observed by the eye. Motor and verbal responses both constitute overt behavior. (Pause)

Now look at Item 2.

Remember, that after the Captain talked with his Executive Officer, he considered the alternatives and decided on a course of action. No one could have seen or heard these thought processes going on in the Captain's mind. These behaviors were not observable. Yet, they were a form of behavior. The term used to describe behavior which cannot be directly observed by others--which cannot be seen or heard by others--is covert behavior.

Thinking, visualizing and projecting are all examples of covert behavior. So also, are our physical responses which are so imperceptible that they cannot be observed or detected without instruments. These include, for example, tonus of the muscles, quickening of the pulse, "butterfly sensations" in the stomach, etc. All of our "inner" actions and reactions are examples of covert behavior. (Pause)

Now look at Item 3.

A midshipman sits in the classroom. His eyes stare intently at the instructor. He appears to be thoroughly absorbed by the instructor's remarks. These are elements of overt behavior. At one point in the lesson, the instructor deals rather vaguely with a complex concept. The midshipman's expression changes to one of puzzlement and worry. We can say that the midshipman is making an emotional response which is overtly reported. We can infer this emotional response from his overt behavior. Such behavior is termed affective behavior. Affective behavior, then, is an emotional response which is overtly reported or is inferred from other overt behavior, such as physiological changes. (Pause)

An alert observer may infer the presence of covert, affective behavior from the overt behavior which it stimulates. The instructor may assume, for instance, that the midshipman does not understand the lesson. The instructor can then act accordingly. (Pause)

We can see that psychologists tend to define behavior in terms of how it is observed by others. (Pause)

Now look at Item 4. (Pause 5 sec)

Now think about what you observed and see if it was this. You may have noticed the number of midshipmen who gathered on the fantail of the ship. You may have noticed that some of them seemed to be rather ill. Did you notice exactly how many midshipmen were in the illustration? Or, did you notice what proportion of them were ill? We shall assume that you were practicing casual observation. Casual observation is simple, haphazard noticing of things around you. Now, if you happen to notice that the midshipman who is seated next to you has gone to sleep, you have made another casual observation. (Pause)

Look again at Item 4, and study the midshipmen to see if they have anything in common.

This time you can see that all three of the ill men are in working uniform while the others are not. Now, you are making a NATURAL observation. This is the process of observing things in a CAREFUL and SYSTEMATIC way--in an effort to determine if patterns or relationships exist in what you see. (Pause)

The vast proportion of observation is casual. Casual observation is not scientific because it is not accompanied by scientific thought. Science attempts to discern patterns and relationships in the ordering of observed phenomena; casual observation does not.

We earlier commented that you "happen" to notice that the man beside you was asleep. You may have found this interesting or amusing, but then you returned your attention to the lecture. You made a casual observation. Suppose, however, that the man had been falling asleep each time the class met, and you decided to make a scientific study of his classroom sleeping habits. At this point, you might begin making natural observations as to the times he fell asleep, the length of his naps, the classroom temperature, the content of the lecture, and so forth. You keep some record of your observations and make a study of your data in an effort to find patterns of cause and effect. Natural observation is one of the cornerstones of scientific inquiry. As one example, when the observer studies animals in their natural environments, he must count various instances of behavior. He notes their relationships to other observed events. (Pause)

Now look at Item 5.

The man on the couch is engaged in making introspective observations--a third kind of observation. Rather than looking at external phenomena as he would do in the course of casual or natural observations, he is looking inward. He is trying to observe his own thoughts, feelings and emotions in order to report them to the doctor. He observes his own conscious processes and states. This is a conscious effort. A person who simply feels depressed is not making introspective observations.

Introspection requires him to note that he is depressed and perhaps continue the introspection by noting the feelings and the thoughts which accompany the depression. Introspection is obviously not an ideal method of scientific inquiry. People usually are not objective about their own inner reactions. Their observations cannot be checked by another observer. Imperfect as introspective observation is, however, it is the only feasible way to evaluate certain phenomena. (Pause)

Now look at Item 6.

The midshipman is asleep in his room. We have made a casual observation--a man is asleep. Make a number of natural observations about the nature of the man's sleep. You may detect certain patterns about his sleeping. As a result of these observations, you may feel that you have an idea as to the reason why he is asleep.

We cannot really be sure, however, unless we employ another method of observation--the experimental method. We know that there are any number of factors which could bear on the central fact that the midshipman is asleep. The time of day, the temperature, the impending lesson and the midshipman's own health, diet and nocturnal habits are only a few of the potential factors here. If we were making natural observations about the midshipman's sleep, we might note these factors. However, when using the experimental method of observation, we attempt to evaluate the effect of each of these factors by manipulating and controlling some of them. The behavior of the individual changes when his environment is made to change or vary. Thus, our interest is focused on changes--the changes which occur in an individual's behavior as a result of changes in his environment. We call each factor that is capable of change a variable. If you feel very warm and someone adjusts the thermostat to change the temperature of the room, your degree of discomfort and the temperature of the room are both variables. (Pause)

The experimental method employs two classes of variables. The first class of variable is the independent variable. This is the variable which the experimenter alters in the hope of producing a reliable change in another variable--the dependent variable, which is the second class of variable. The experimenter is interested in observing the effects of the independent variable on behavior. For example, he may want to determine the effect of simultaneously hearing and seeing a list of words, on a student's ability to remember the list. The combination of auditory and visual presentation is the independent variable. The number of errors which the student makes when he is recalling the list, is the dependent variable.

In any experiment there are elements or conditions which the experimenter does not intend to manipulate. These elements could, nevertheless, have some effect on the dependent variable if not held constant.

If our experiment is to be valid, we must exercise control over them. For example, the varying degree of student familiarity with the words in a list to be memorized, the amount of competing auditory or visual stimulation (that is, people walking around, talking, and so forth), the length of time allowed for study of the list, are all factors which affect the dependent variable (the number of errors which the student makes when he is recalling the list).

It is necessary that each of these elements be carefully controlled, that is, be held constant, if the results of the experiment are to be validated. (Pause)

There are four steps employed to apply the experimental method.

Now look at Item 7.

Step one: Identify, isolate and observe the dependent variable. In dealing with an individual's behavior, we should identify one specific aspect of that behavior for our study. As an example, study the ability of a certain fourthclassman to do pullups.

Step two: Introduce an independent variable. Potentially, there are a large number of independent variables which could be introduced into our example. We can vary the amount of sleep the fourthclassman gets before the testing period. We can vary his diet. And, we can assign rewards for high achievement--and so forth. Lastly, we make a rough estimate of what the results of introducing a particular variable might be.

Step three: Control all other variables. It is important that all other conditions of the environment be held constant. For example, room temperature should be kept at the same level for each test period. Temperature variation may invalidate the test. If we select the amount of sleep as the variable, then diet must be held constant. We must hold relevant variables constant.

Step four: Observe the results of the experiment. Observation in this instance usually takes the form of recording the effects of the independent variables on the dependent variables. Consider the investigation of the physical evidence. Compare the number of pullups accomplished after four hours of sleep to those accomplished after eight hours of sleep--or, the number after a well-balanced meal to the number accomplished on an empty stomach. (Pause)

Now look at Item 8. --Examine it--the illustration will help you to review the steps of the experimental method. (Pause 30 sec)

Now look at Item 9.

The experimental method should yield three useful results or outcomes. Suppose that our testing showed us that midshipmen consistently performed better when scheduled before noon for pushups, as compared to when scheduled during the evening hours. The statement: "Performance was improved by shortening the period between sleeping and exercising," constitutes a description of relationships between the independent and dependent variables--the first outcome. (Pause)

A second outcome is prediction. (Pause)

On the basis of our descriptions of the tested relationships, we usually can make predictions regarding performance which we have NOT tested. From the results of the experiment, our description became "performance was improved by shortening the period between sleeping and exercising." We probably can now predict that performance will be improved if testing were accomplished before reveille, even though we have not actually tested performance at that time. The experimental method produces an understanding of the relationships between independent and dependent variables. This understanding makes possible the third outcome, control. Control relates to an ability to manipulate future behavior. For example, the summer platoon leader has learned through experimentation that when he conducts infantry marching drills with marching music played by the Navy Band, vastly improved marching performance generally results.

Let's review the three outcomes of the experimental method. (Pause)

We found that the first outcome is description: a statement of the functional relationship between independent variable and dependent variable. (Pause)

The second outcome is prediction: a statement about an expected change in the dependent variable based on knowledge of the effects of the independent variable. (Pause)

The third and final outcome is control. Control refers to an ability to manipulate behavior on the basis of previously determined outcomes, that is, description and prediction.

Abstract terms and thinking are frequently encountered in common usage. (Pause)

Now look at Item 10.

The word "foot" has several connotations as you can see. You require a special point of reference to answer the question "How long is a foot?" To gain that reference you might ask "What foot?" or "What kind of foot?" The length of your own foot may be about 11 inches--your girl friend's foot is probably less, say about 8 1/2 inches--your dog's foot may be about 2 inches. You also recognize the foot as a distinct unit of measurement in the English system--in this case, a foot is exactly 12 inches of length. The trouble with the question "What is a foot?" is that it does not communicate what the questioner has in mind when he uses the word "foot." Definition and meaning are missing.

Technology and science require the use of clear, precise definitions--terms which are accepted as having the same meaning by everybody who uses them. Before a standard was established arbitrary units were used. At one time, an individual measured distance according to the length of a person's foot. Visualize the impact in the modern construction industry if the architect had his own idea of a foot of length, the contractor had a different idea, and the plumber did not agree with either of them. Progress stops!

A breakdown in communication--confusion, would also result in the study of behavior if psychologists were not able to arrive at accepted and understood definitions. All scientists work with what they call "operational" definitions in order to insure the clearest possible communications. (Pause)

Now look at Item 11.

To understand the meaning of an operational definition, let's examine a concrete example. Intelligence is a key concept in psychological study. Each of us probably has his own idea of what intelligence is, such as: the ability to get good grades, the ability to respond verbally, the ability to solve problems, etc. Psychologists avoid this confusion. They define intelligence in terms of the scores obtained on standard tests, and by other operations which they use for measuring intelligence.

Thus, an operational definition of the word "intelligence" is a definition of intelligence specifically in terms of I.Q. tests.

It is extremely difficult to define certain concepts operationally. It may be necessary to impose an extremely arbitrary and limited definition for a term to be used scientifically, in certain cases. For example, a psychologist may decide to measure love in terms of the number of times a man and woman kiss each other within the course of one hour. His operational definition of love may be presented as:

"that behavior of a man and woman kissing each other at least three times within the course of one hour." This is obviously an inadequate definition of love. An adequate definition of that term within a scientific context is difficult to state.

In summary, we can say that in psychology an operational definition is one which defines a behavior in terms of the observable operations used to measure that behavior. (Pause)

Now look at Item 12.

This midshipman has made a "New Year's Resolution" to stop smoking. If he has not taken a cigarette by the end of the term, he probably will tell you that he has "kicked the habit." It also could be said that the midshipman "has will power," or that he is "exercising self-discipline." Let us now speak in terms of an informal operational definition for his behavior. Perhaps we could say that a man has will power--or exhibits self-discipline--whenever his performance is consistent with his intentions. We use the language of the psychologists to say that he exhibits "intention-performance congruency." What a person says about his future performance, oral or written, designates his intention. Thus, when the midshipman said, "I am going to quit smoking" this indicated an intention. What a person does, is his performance. This is any element of his behavior that we can observe or measure. The midshipman's successful avoidance of smoking is an example of performance. Finally, congruency indicates a state of agreement--agreement between the intention of an individual and his performance in this case. The midshipman who intended to stop smoking, did, in fact, stop smoking. His intention and his performance were therefore in agreement. He exhibited intention-performance congruency--or will power The preceding example appears to have a "happy ending." Not all expressed intentions translate into such positive action. Suppose, for example, that this midshipman announced his intention to stop smoking and then failed to do so. Let us now speak in terms of an informal operational definition for that behavior. Perhaps we could say that the man has exhibited "weak will." A good operational definition of "weak will" could be "intention-performance incongruency." Behavior can either occur or not occur, as seen from the two preceding examples. Thus, if an officer on board ship states that he will not go ashore, and then he does go ashore, his behavior can be defined as manifesting intention-performance incongruency. The relationships between the intention-performance factors can provide simple and easily communicated operational definitions for otherwise illusive concepts. (Pause)

Behavior is not the purely haphazard activity that it might appear to be on the surface. There are certain patterns in human behavior. Thus, there are certain side benefits to be derived from the search for operational definitions. A key psychological discovery is that there are very definite, very observable patterns of cause and effect which are present in almost all behavior. Consider, for example, the behavior of the Navy pilot who has been shot down over a jungle. (Pause)

Now look at Item 13.

Because he has consumed all of his emergency rations, he must depend upon what he can find, or trap, to eat. This pilot has had little nourishing food for many days. He tastes roots and tubers of plants which he finds along his route of travel. We have used common terms to describe the behavior of the downed pilot. Let us translate these into psychological terms, and say that this pilot was demonstrating adjustive behavior. Adjustive behavior also may be called adaptive behavior and it occurs any time that an organism behaves as the result of demands developed from social or biological needs. Adjustive behavior is the main concern of psychology. Conditioned responses from his survival training and going without nourishment produced the cause, or antecedent condition for the pilot's food-seeking behavior. The stomach contractions which resulted from going without food, also produced a stimulus. The definition for stimulus is: any antecedent or environmental condition which elicits behavior. You should recognize that military orders which are received by subordinates from their seniors, such as verbal commands, written directives, calls to battle stations, and so forth, are all rather firm stimuli. The reaction which is made to a stimulus is a response. In the preceding situation, the pilot's response to his stomach contractions was to consider eating. Therefore, a response is anything which a person does as he reacts to a stimulus. The response may consist of behavior which is overt or covert. Hence, it is possible to diagram relationships between a stimulus and a response as: stimulus...elicits...a response. (Pause)

Now look at Item 14.

Simple as this appears, it serves as a foundation for development of other, more complex, interrelationships of behavior in the free-willed human. (Pause)

No adjustive behavior is purely automatic. Stimuli impinge upon the nervous system. These stimuli are sorted out and evaluated before an appropriate response is generated. (Pause)

Now look at Item 15.

Notice that a new element has been added to the diagram of stimulus-response relationship. The process of sorting and evaluating is called organization. By organization we mean those covert processes by which we assimilate and structure sensory information. Organization processes are always based upon both present conditions and past experiences of an individual. Refer again to Item 13 and the situation of the downed pilot. He selects and tastes food which appears to be edible, based upon his training and past experience and upon present availability. He uses covert mental processes in this behavior. Organization can occur at a conscious level or an unconscious level--or a combination of both. Being covert, organization processes can never be directly observed. Organization is inferred on the basis of response. When an individual responds to a stimulus, this produces change in the environment. Reveille is a familiar stimulus-response situation. (Pause)

Now look at Item 16.

A midshipman is asleep. A ringing bell stimulus impinges upon his condition. The midshipman gets out of bed. This act is the response to the stimulus. Now, as a result of the response, there is a new environmental condition. He is no longer asleep. He is awake and out of bed. He senses the temperature of the floor. Thus, the new environmental condition becomes a stimulus. As a stimulus, it can elicit further responses. (Pause)

Refer back to the reveille situation of Item 16 and let us develop a slightly different pattern. Suppose that this were the midshipman's first day at the Academy. He might respond in a somewhat different manner by simply staying in bed. If so, he responds in a manner which does not conform to Naval Academy Regulations. Response does not conform to defined conditions of his new environment. We can assume that his pleasure of the moment was rather fleeting! Conditioned response is implied in military discipline. Stimulus-response behavior is reinforced by both reward and punishment. In all aspects of society, behavioral responses are shaped and molded by conditions and environment. When the new midshipman fails to conform to established Academy behavior by sleeping-in after reveille, he receives a reprimand. He may later be rewarded for academic proficiency. Both of the resulting stimuli, the reprimand and the reward, are examples of feedback. We might say that feedback occurs whenever the operation of a mechanism informs a behaving organism as to whether the behavior conforms to previously defined conditions. In this context, we have used a classical definition of feedback. It is the component of a system which detects and signals deviation of the output from a defined condition. Remember, feedback can be positive as well as negative. It can include rewards or punishments. Once it has been assimilated, feedback then becomes a factor in the organization of future responses. Feedback can influence response in such a way as to modify future behavior of the individual. When a midshipman chooses to modify his future behavior because of the feedback stimulus of a reprimand, he is engaging in adjustive behavior. Keep in mind that adjustive behavior was given as anything which an organism does in response to biological and/or social demands. (Pause)

Now we can complete our diagram of adjustive behavior.

Now look at Item 17.

A stimulus from the environment is assimilated and structured by the covert process we call organization. As a result of this organization, a response takes place. The response in turn creates a change in the environment. Environmental changes can function as feedback. Feedback then is detected and organized by the individual in much the same way that he organized the initial stimulus. As a stimulus, feedback can then serve to modify or confirm the individual's future responses. (Pause)

In summary, we have identified adjustive behavior as behavior which depends on both its antecedents and its consequences. We can utilize our model to verbalize an operational definition of adjustive behavior. A person displays adjustive behavior when - after making a response to a particular stimulus, thereby effecting a change in the environment which provides him with feedback--he modifies his future behavior.

This is the end of Part Two, Segment II.

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment III
Learning

Audio Panel Book
(HAPB)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

FOREWORD

"Oh, this learning, what a
thing it is."

Shakespeare, The Taming
of the Shrew

The psychological concept of learning has a more universal meaning than the common notion of formal education. When psychologists attempt to explain learning, they refer to acquired motor or physical skills, trained emotional responses, habits and in some cases, passions, as well as the learning of the ABC's.

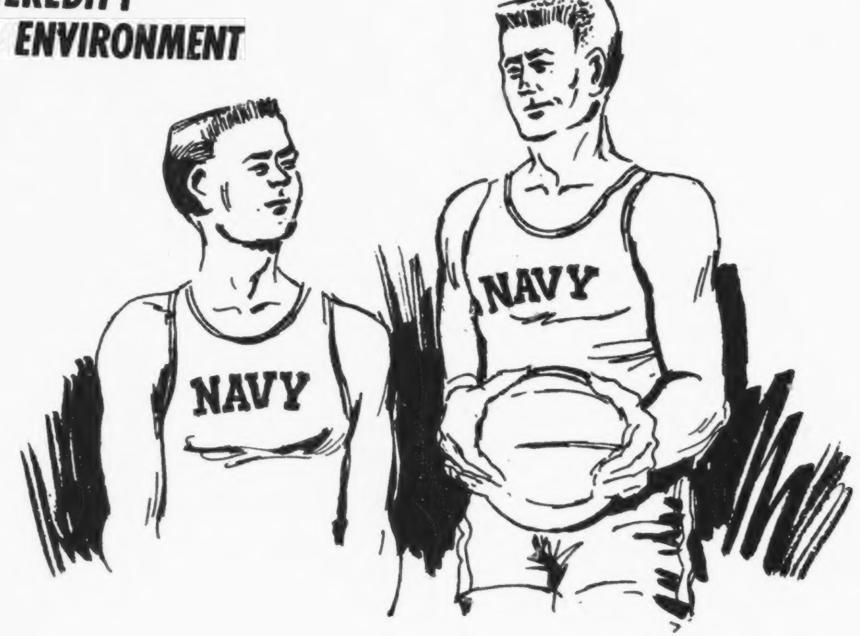
Theories of learning as advanced by individual schools are sometimes more reminiscent of the group of blind men trying to describe an elephant. One blind man touches the trunk and says, "This animal is like a large snake." Another blind man feels the elephant's leg and proclaims that an elephant is like a tree. And so on. In a sense they are all correct but only partially so, and to date, what we know about learning represents the tip of the iceberg for all that is represented by human learning.

But, if we were to scoff at all these theories or declare them inadequate, we would be like the man who, having heard the report of the blind men, decided that an elephant did not really exist. If what we know about learning doesn't tell the whole story, it does allow us to be more effective as leaders and trainers of men.

LEARNING

Item 1.

HEREDITY & ENVIRONMENT



Question 1.

How should you state the roles of heredity and environment in determining behavior?

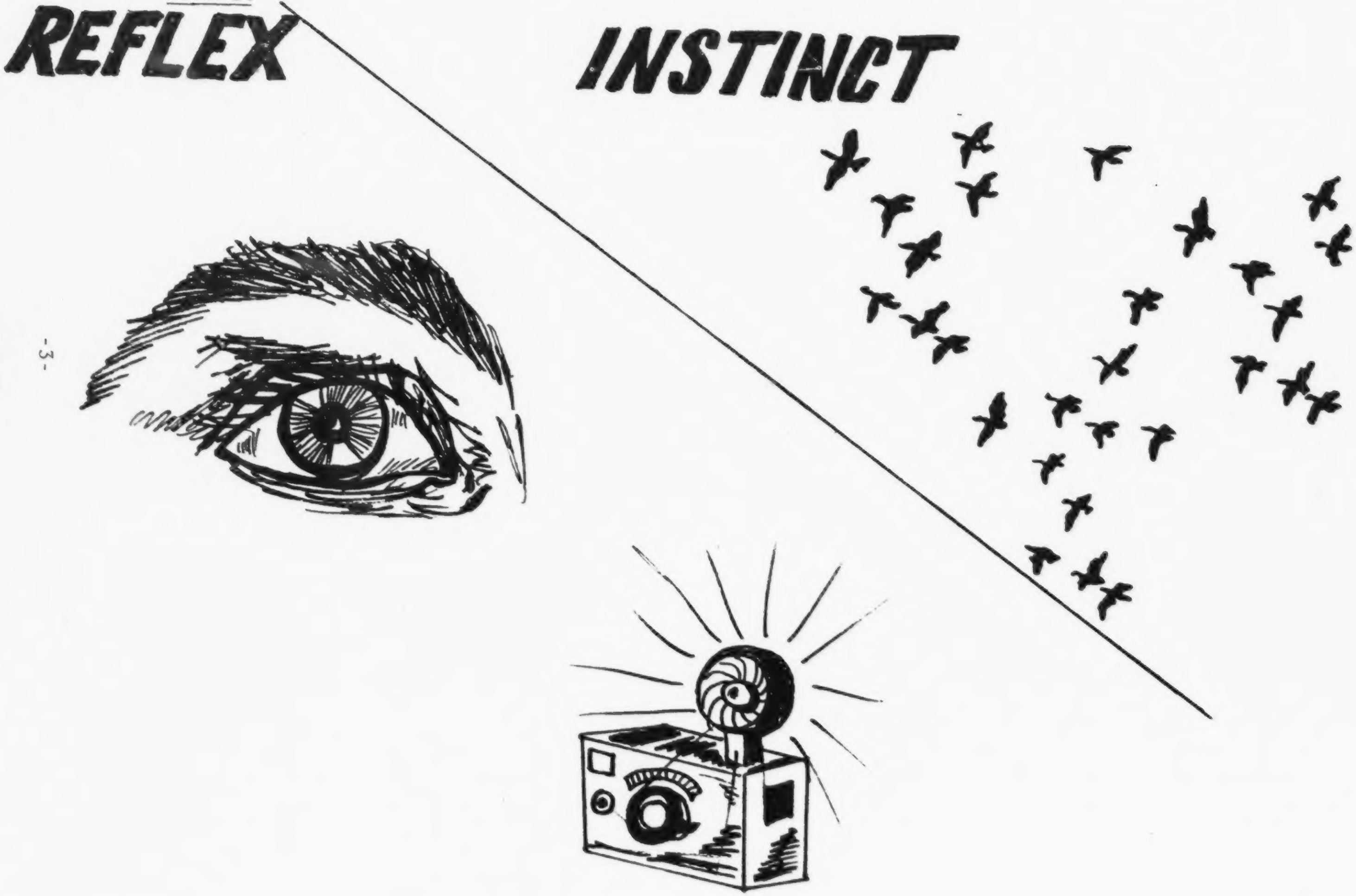
a. Behavior is primarily determined by heredity.

b. Behavior is primarily determined by environment.

c. Heredity and environment independently affect behavior.

d. Heredity and environment interact in determining behavior.

Item 2.


REFLEX
INSTINCT

Question 2.

Which example best typifies instinctive behavior?

a. A sailor automatically takes cover in combat as he hears the sound of a shell passing overhead.

b. Young birds build a typical nest for that species when they are mated for the first time.

c. The hound dog appeared to be able to tell time because he was present precisely at mealtimes.

d. The Boatswain Mate of the Watch invariably seemed to know who was trying to bring aboard liquor.

Question 3.

Which of the following best exemplifies reflexive behavior?

a. A yellow light flashes whenever a picture of a cat appears on a screen to stimulate a student to write "cat." Soon the student learns to write "cat" every time only the yellow light flashes.

b. A mother rat builds a complex nest of hay and feathers when she is about to give birth for the first time.

c. A person's leg flexes when a certain spot on the kneecap is hit sharply with a mallet.

Question 4.

How should you differentiate between acquirement and performance?

a. Acquirement is patterned behavior and performance is how you will do a job.

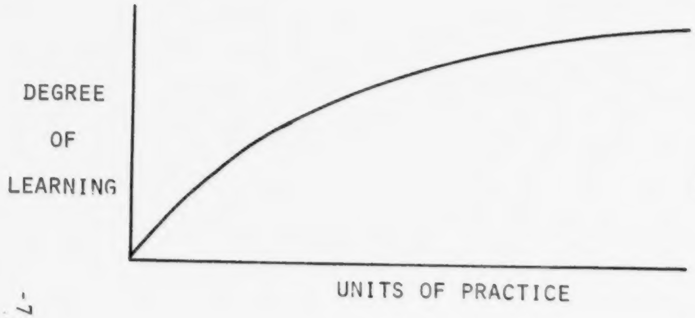
b. Acquirement is the accrual of new behaviors and performance is the demonstration of learning.

c. Acquirement is the set of behaviors learned through a demonstration of performance.

d. Acquirement is the amount of money you are paid, based on your performance of duties.

Item 3.

A.


DEGREE
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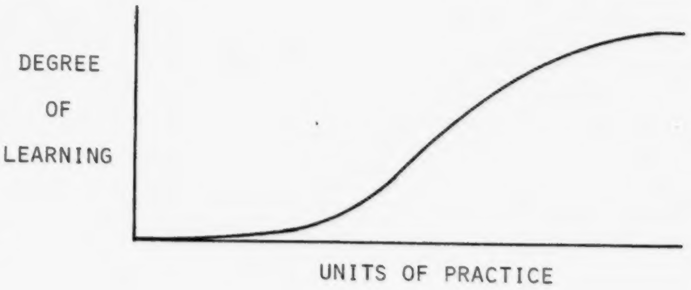
B.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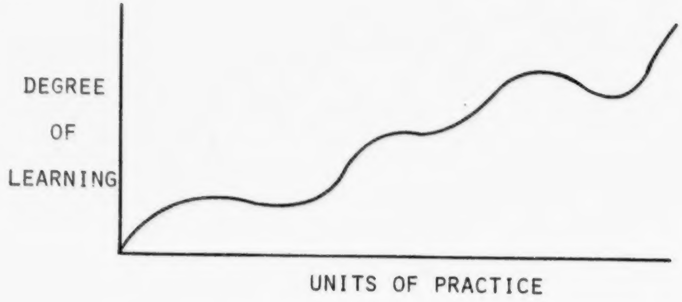
C.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LEARNING
UNITS OF PRACTICE

Question 5.

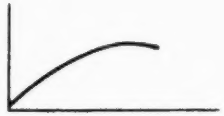
For each one of the lettered items determine the number of the description which best applies. (Use each description only once).

a. Learning Curve

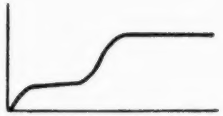
b. Base line in a learning performance graph

c. Vertical axis in a learning performance graph

d.



e.



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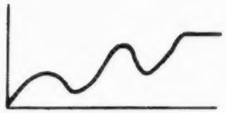


1. Performance of slight initial learning followed by rapid learning

2. Index of performance, such as score in points or the percentage correct

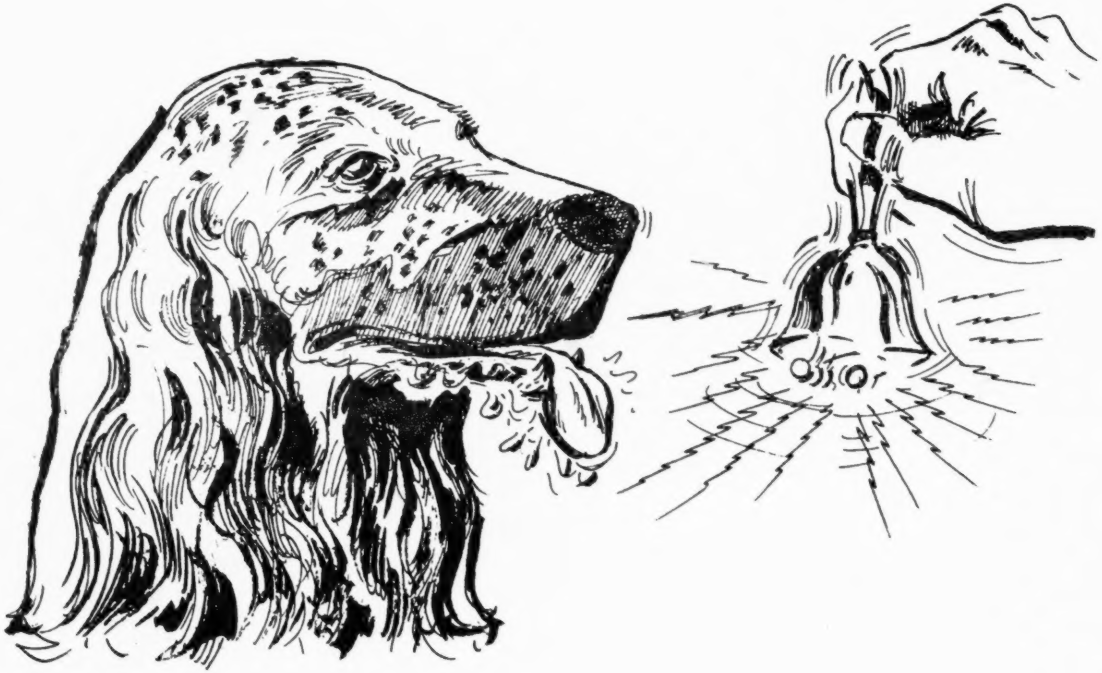
3. Indication of rapid initial learning, followed by little further improvement from further practice.

4. Learning interrupted by periods of no gain, or temporary loss of skills

5. Independent variable, that is number of trials, time spent in practice

6. Graphic representation of rate of learning as measured by performance

Item 4.



Question 6.

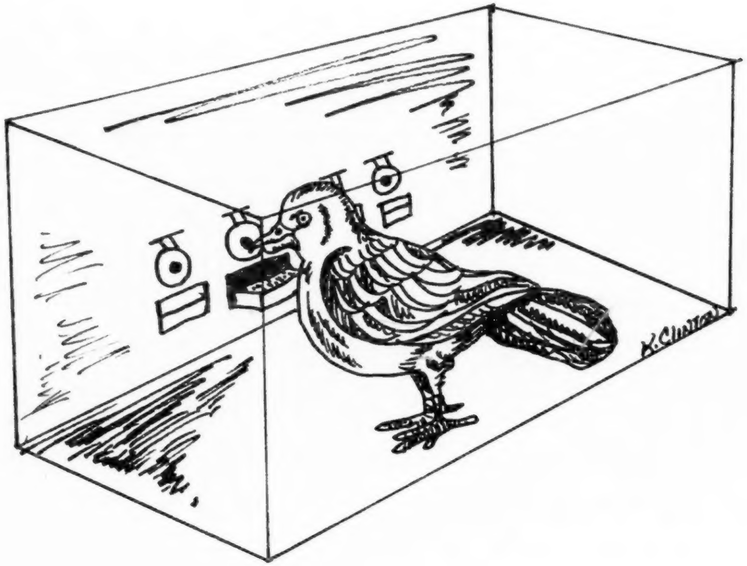
Which of the following best exemplifies conditioning?

a. A yellow light flashes whenever a picture of a cat appears on a screen to stimulate a student to write "cat." Soon the student learns to write "cat" every time only the yellow light flashes.

b. A mother rat builds a complex nest of hay and feathers when she is about to give birth for the first time.

c. A plebe learns after repeated trial and error, which form of address to use for each rank of officer.

Item 5.



Question 7.

Which of the following examples properly describe discrimination learning?

(There may be more than one correct answer to this question.)

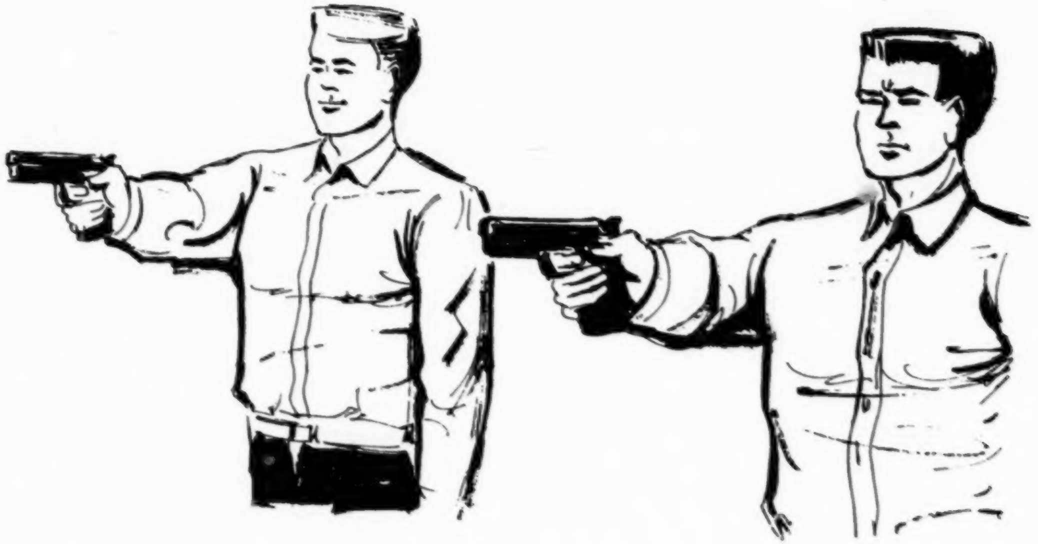
a. A midshipman who receives "A's" for completing assigned homework and "F's" for failing to complete homework, avoids completing homework and wonders why he doesn't get "A's."

b. A junior officer learns to respond differently to several different signal hoists.

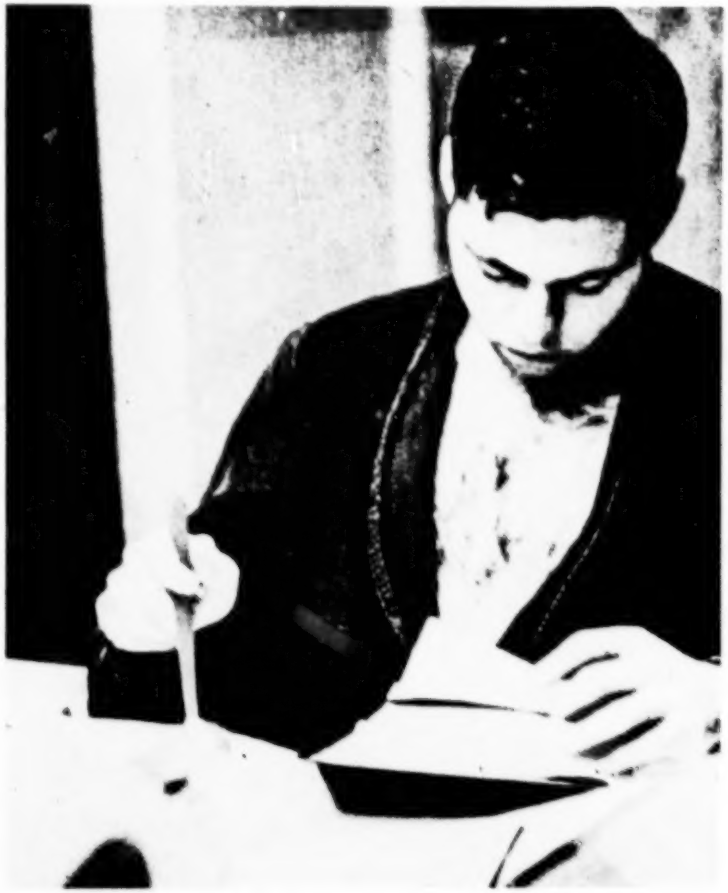
c. You instruct the security guard at the Naval Station to admit only cars with proper stickers and stop all other cars for identification.

d. A midshipman makes the same response when he is exposed to two different kinds of stimuli.

Item 6.



Item 7.



Question 8.

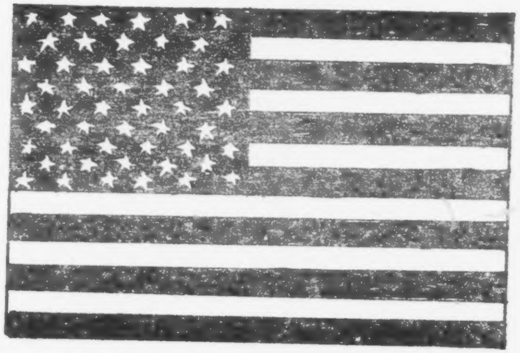
1. Naval ships always have identifying names.
2. MIDN White is asking directions of a native in Spanish.
3. A midshipman salutes his superior.

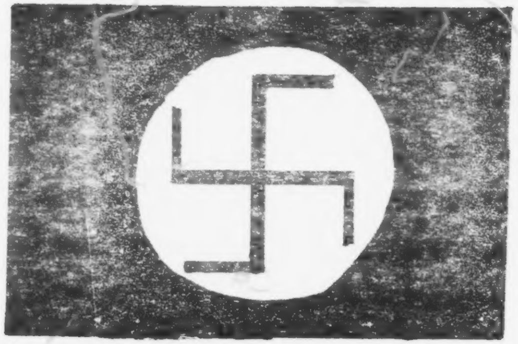
Select from the numbered examples the best illustration of a) verbal learning, and b) motor skill learning.

a. Verbal

b. Motor skill

Item 8.





Item 9.

Item 10.

STEPS IN STIMULUS CONTROL

1. DETERMINE THE RESPONSE YOU WISH TO PRODUCE
2. IDENTIFY STIMULUS WHICH AFFECTS BEHAVIOR
3. ARRANGE STIMULUS CONDITIONS IN ORDER TO PROVIDE DESIRED RESPONSE
4. PROVIDE REINFORCEMENT

Question 9.

Which one of the following best describes "reinforcement?"

a. An event which increases the probability of a response, if made a condition of that response

b. A consequence of our response which is of value to us

c. A consequence of a stimulus which extinguishes our tendency to respond

Question 10.

Which of the following should be associated with "negative reinforcement"?

a. The consequent event which produces a stimulus that increases the probability of a response

b. The junior officer learns that firing at the enemy helps to terminate an attack.

c. The fourthclassman learns to keep his quarters clean because his upperclassmen instruct him with come-arounds if he doesn't.

d. Attitude learning

Question 11.

Match each of the steps in stimulus control with the appropriate numbered activity.

a. Identify the stimuli which currently control the behavior.

b. Determine the components of the desired response.

c. Arrange the stimulus conditions which will result in the desired response.

d. Reinforce the behavior.

1. The instructor has noticed that improvement has occurred in the past when additional homework was required and when graded papers were returned to the students, and when the improved students were rewarded with lighter homework assignments.

2. An instructor at the Academy is dissatisfied with the performance of a certain class on homework papers. He has consistently assigned homework, but never given grades on it or handed back the papers.

3. The instructor announces the criteria for a good paper, and states that the graded papers will be returned and that students who exceed the standards will be rewarded with lightened homework assignments and that those who fail to meet the standard will be required to continue doing the increased homework.

4. The instructor recognizes superior achievement in the manner described in 1.

Question 12.

Because of loyalty to his Captain, one of the enlisted men performs beyond the duties of his position to analyze and solve problems concerning some shipboard equipment.

What is the best course of action for the Captain to take with respect to reinforcement?

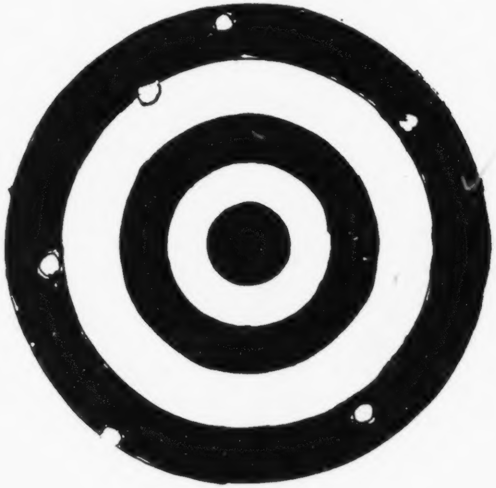
a. The Captain should arrange to have the man reassigned to another ship.

b. The Captain should immediately and positively take action recognizing the man's achievements.

c. The Captain should not do anything beyond making a mental note of the situation.

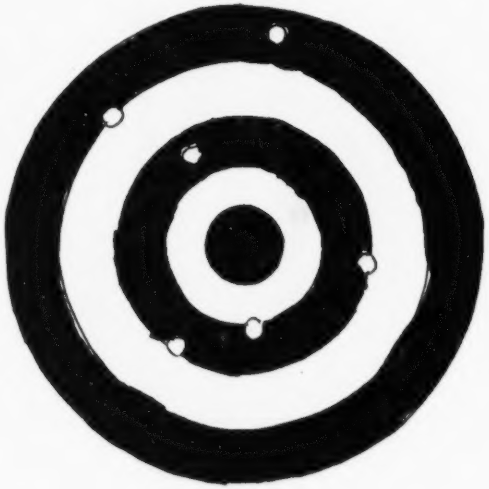
d. The Captain should post a notice thanking all men on board for accomplished tasks.

Item 11.



"GOOD SHOOTING"

Item 12.



"NOT SATISFACTORY"

Question 13.

A midshipman spends the entire first semester at the Academy studying French for the first time. He has learned the meaning and use of the words, but has not been able to correctly pronounce them. Therefore, he is always self-conscious about his oral performance in class.

Which one of the following procedures should be used by the instructor to eliminate the midshipman's problem?

a. The instructor should not correct the midshipman's mispronunciation, but should wait until his pronunciation is good before giving him any grade above "C."

b. The instructor should be critical of the midshipman whenever he makes an error in pronunciation, but give him "A's" anyway.

c. The instructor should praise the midshipman for each successively better attempt at pronunciation, raising his standards as the midshipman improves.

d. The instructor should praise the midshipman only after he pronounces each word correctly, three times in a row, since only then would the midshipman be doing "A" work.

Item 13.

SCHEDULES OF REINFORCEMENT

REINFORCEMENT MAY BE:

FIXED
or
VARIABLE

according to either

RATIO
or
INTERVAL

Question 14.

1. A commanding officer praises his men every second time that they do well.

2. A midshipman in training is told "good" by his instructor after a random number of accurate rifle "hits" on the target.

3. Paychecks are distributed to all midshipmen on the last day of each month.

4. A certain instructor at the Academy was known to administer unannounced "spot" quizzes to make sure that the midshipmen studied on a regular basis.

Which of the foregoing numbered examples best corresponds to the reinforcement schedules a through d? (There may be more than one answer to this question.)

a. Fixed interval
b. Fixed ratio
c. Variable interval
d. Variable ratio

Question 15.

Which of the following best describes extinction?

a. Reinforcement of behavior which is the exact opposite of the desired behavior

b. The elimination of a response from an individual's repertoire through the withholding of all positive consequences for that response

c. The elimination of behavior through the consistent presentation of negative consequences for that response

d. Suppression of behavior whose occurrence prevents the occurrence of the desired behavior

Question 16.

In which one of the following examples does the squad leader employ the principle of reinforcing incompatible behavior during extinction to achieve a change in the behavior of fourthclassmen?

a. In addition to intermittent verbal reprimands, the squad leader offers "carry-on" at the table to the fourthclassman whenever he does appear properly dressed at formations.

b. The squad leader increases the frequency and intensity of the verbal reprimands and combines them with more severe disciplinary action.

c. Since he is getting no results anyway, the squad leader ceases entirely giving verbal reprimands for this uncooperative underclassman.

d. The squad leader should discipline all of the fourthclassmen in that squad so that they will force the offender to come to formations in the proper uniform.

Question 17.

Which one of the following is the best definition of "punisher?"

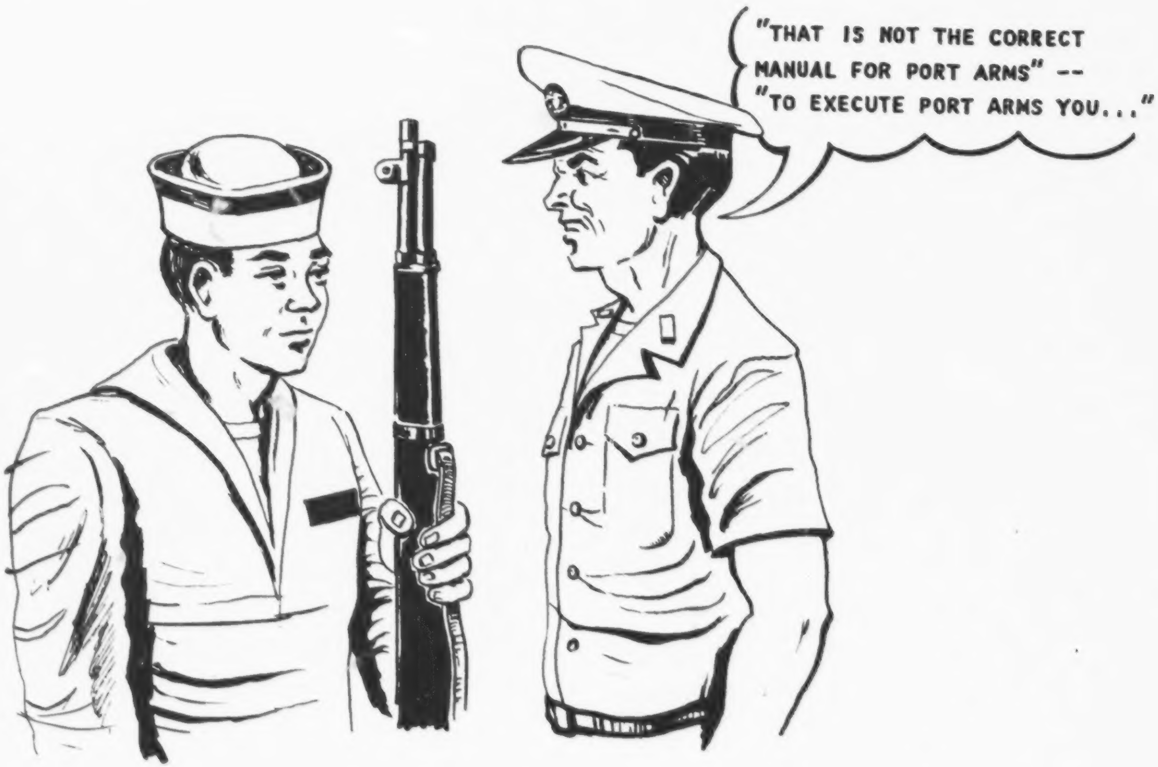
a. The presentation of an aversive event following an unwanted response to decrease the likelihood of the response.

b. An aversive event which is presented before an undesired behavior to eliminate it.

c. An aversive event which is made contingent upon a response for the purpose of increasing the response.

d. An aversive event which is presented to elicit a desired response in accordance with the Uniform Code of Military Justice.

Item 14.


"THAT IS NOT THE CORRECT MANUAL FOR PORT ARMS" -- "TO EXECUTE PORT ARMS YOU..."

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment III
Learning

Progress Check

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

LEARNING

PROGRESS CHECK

Question 1.

Of the following descriptions which can be considered an example of instinctive behavior?

1) Geese flying south for the winter
2) The contraction of the pupils of the eye in response to a sudden flash of light
3) A dog coming at the call of his master

a. 1
b. 2
c. 3
d. 1 and 2

Question 2.

Of the following, the example which best distinguishes the differences between performance and acquirement is:

a. Acquirement refers to the degree of learning which can be observed; performance, to the observable improvement in a behavior.

b. Acquirement refers to the process of learning new behaviors; performance refers to any observable behavior demonstrating what the individual has learned.

c. Performance refers to the rate of learning processes; acquirement, to a requisite skill for performance.

d. None of the above

Question 3.

The following example illustrates a certain type of learning.

An alarm sounds while you are asleep on a submarine. You must determine whether it is a diving alarm or a collision alarm since you must perform certain tasks immediately if it was the collision alarm.

The type of learning involved in this situation is:

a. Discrimination

b. Problem solving

c. Verbal

d. Motor

Question 4.

An ensign on shore leave fails to show up for a scheduled plane flight. He had not thought about alternative transportation and was unable to obtain any except by public bus, which will make him several hours late. He calls and tells his Commanding Officer.

What action should the Commanding Officer take in order to cause a desirable behavior change in the ensign?

a. Provide positive reinforcement because he called.

b. Tell him off over the phone in an attempt to stimulate him to find another way back to the base, sooner than the bus.

c. Acknowledge his call; point out that you appreciate his effort to keep you informed; and make it clear that you want to discuss the matter with him upon his return to base.

d. All of the above would have equal effectiveness in changing behavior.

Question 5.

Most learning curves have an irregular nature, that is, they indicate a fluctuation of performance during learning. This can be best explained by:

a. A loss of or change in motivation

b. Presence of unconditioned stimuli

c. Both of the above

d. None of the above

Question 6.

Usually the amount of time necessary for qualification for service on a submarine is nine months. Seaman Thomas learned the various systems and procedures necessary to qualify, in five months.

The best use of positive reinforcement would be:

a. Let him go through the remaining training without taking any tests.

b. Commend him and give him his dolphins.

c. Designate him qualified now, and give him his dolphins when his class receives theirs.

d. Tell him that because he is working faster than the others he is authorized to help them learn.

Question 7.

MIDN Parker's parents have a habit of calling him once a week to find out how he is and how he is doing at the Academy. These calls often come at inconvenient times for MIDN Parker, and occasionally his parents have become concerned because they couldn't reach him immediately. MIDN Parker has complained to his parents about this, but they persist in calling.

How could MIDN Parker best extinguish this undesired behavior?

a. He accepts the calls from his parents but is extremely unresponsive and uncommunicative in conversing with them.

b. He continues to complain to his parents about the calls, stressing how inconvenient they are.

c. He continues to accept the calls from his parents, but is brief and uncommunicative in his conversations. At the same time, he establishes a habit of calling them at times convenient for him, and being extremely responsive and communicative in these calls.

d. He refuses to accept the calls from his parents and has his roommate make some excuse each time they call.

Question 8.

Which of the following most adequately states the difference between punishment and extinction?

a. Extinction refers to the withholding of all positive consequences for a response thereby eliminating that response; punishment suppresses a response by presenting an aversive stimulus following the response.

b. Punishment suppresses unwanted behavior through the presentation of positive consequences to an alternate behavior; extinction refers to suppressing unwanted behaviors through the presentation of an aversive stimulus.

c. Extinction refers to reinforcing an incompatible behavior with the one being extinguished; punishment is the withholding of positive consequences of behavior.

d. Punishment is a means of changing behavior by increasing the likelihood of some other response; extinction is a decrease in the likelihood of some response by presentation of an aversive stimulus.

Question 9.

Which two of the following phrases complete the definition?

A negative reinforcer:

1) Is that consequent event which terminates an existing aversive stimulus
2) Removes a rewarding reinforcement
3) Increases the probability of the response it is contingent upon
4) Decreases the probability of the response it is contingent upon

a. 1 and 2
b. 2 and 3
c. 1 and 4
d. 1 and 3

Question 10.

In a situation where a man is consistently late for a watch, the correct method to achieve a desirable behavior change using punishment is:

a. Make him recite "I will not be late to watch" every time he sees you.
b. Administer some after-hours instruction in promptness, and if the man continues to be late, put him on report.
c. Say nothing to the man about his continual lateness, but when the ship reaches port two weeks later, see that he is deprived of his liberty card.
d. Both a and b above

PROGRESS CHECK ANSWER AND REMEDIATION FORM

PART Two SEGMENT III

REMEDIATION TEXT Audio Script - VOL II-A

ITEM	ANSWER	REMEDIATION REFERENCE
1	a	Pages 2-3
2	b	Pages 3-4
3	a	Pages 7-8
4	c	Pages 14-15
5	a	Pages 4-5
6	b	Page 11
7	c	Page 14
8	a	Pages 14-15
9	d	Page 11
10	b	Pages 15-16
11	☐	
12	☐	
13	☐	
14	☐	
15	☐	

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment III
Learning

Audio Script
(LRDF)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

INTRODUCTION TO PSYCHOLOGY
AND LEADERSHIP

PART TWO
SEGMENT III

LEARNING

Learning may be defined as any relatively permanent change in behavior which occurs as a result of experience or practice. This definition has three important elements: (1) Learning is a change in behavior, for better or worse. (2) It is a change that takes place through experience or practice; changes due to growth, maturation, or injury are not to be considered as learned. (3) The change, to merit the term learning, must be relatively permanent. This rules out changes due to motivation, fatigue, adaptation, or the sensitivity of the organism. (Pause)

Now look at Item 1.

According to definition, then, learning results from and depends upon contact with the environment. However, heredity plays an important part in learning as well. Heredity determines physical structure, for example, long legs, big hands. Structure, in turn, biases an individual's behavior. For example, a man might have inherited the potential for becoming a good basketball player, such as tall stature, long legs, but, nonetheless, he requires certain environmental conditions, such as practice, good coaching, and so forth, in order to achieve that potential.

Heredity is also responsible for difference between species, and hence, limits the kinds of behavior which a member of a given species is capable of learning. Finally, though it has not been conclusively proved, there is evidence to suggest that there is a direct relationship between a person's genetic makeup and his behavior. Inherited determiners, genes, affect the development of body tissues and organs which in turn affect the way a person behaves. In short, it is virtually impossible to say just where the influence of heredity leaves off, and where that of environment begins; but clearly, learning is the result of an interaction of both of these factors. (Pause)

More importantly, virtually all of man's behavior is learned, or affected by learning. Some important exceptions are instinctive and reflexive behavior. Let's discuss these for a moment.

Besides those resulting from maturation (growth), the only clearly unlearned behaviors are instincts and reflexes. Instinctive behavior is typified by the baby bird, who flies immediately upon being pushed out of the nest. To qualify as instinctive, behavior must satisfy three requirements: (1) the behavior must be characteristic of the species (all baby birds can fly upon being thrown out of the nest); (2) it must appear full-blown at the first opportunity (the baby bird flies without any practice or training, that is, without learning); and (3) it must continue for some time in the absence of the stimuli which initially set it into motion (the bird continues to fly without again having to be pushed). Scientists disagree as to whether or not human beings exhibit instinctive behavior, but it is certainly apparent in the behavior of lower animals, i.e., maternal behavior of rats, migration of birds, etc.

Now look at Item 2.

A second type of purely unlearned behavior is, on the other hand, quite common in humans: that is, the reflex. A reflex is an inherited, automatic response to a certain stimulus. An example of reflexive behavior is the contraction of the pupil of the eye to the stimulus of light. No learning or practice is required in order for this behavior to occur, and the behavior ceases as soon as the stimulus is removed. It is in this final respect that reflexive behavior differs from instinctive, since instinctive behavior continues after the initiating stimulus has been removed. (Pause)

Since so much of man's behavior is in fact learned, psychologists have devoted a great deal of study to learning, and ways of measuring and describing it.

Many factors, both learned and unlearned, affect performance. However, all that we can measure or study is the way an organism performs. Thus, in measuring learning, psychologists make an important distinction between acquirement and performance. Acquirement refers to the repertoire of behaviors (overt or covert) which the individual has acquired through previous learning, or while in the process of learning. Performance refers to the valued outcome of what an individual has learned, in other words, the demonstration of acquirement. For example, an enlisted man may be shown how to turn on an emergency valve by his superior. The enlisted man has acquired all the behaviors necessary for turning on the valve should an emergency occur. He has turned valves in other circumstances. He can describe what he would do in an emergency. However, until he actually does turn the valve in an emergency, we cannot say he has demonstrated the acquired behavior through performance. (Pause)

In short, acquirement is the "accrual" or "getting" of new behavior; performance is the demonstration or valued outcome of the behavior. (Pause)

Now look at Item 3.

Although we cannot measure actual learning, we can assume that learning has occurred on the basis of improved performance. Patterns of learning may be plotted graphically and usually result in learning curves such as those illustrated in Item 3. The horizontal axis, or base line usually indicates units of practice, e.g., weeks of playing golf. The vertical axis represents degree of learning as indicated by some measure of performance, e.g., your golf score. Consider the degree of learning as the dependent variable, and the units of practice as the independent variable. The plotted line which results is the "learning curve." In Item 3, curve A indicates a typical learning curve for some simple procedure, for example, simple knot tying. It shows rapid initial improvement, followed by decreasing improvement from further practice. Curve B in Item 3 illustrates a typical learning curve for a more complex behavior, such as learning a language. It shows little or no improvement initially, followed by a period of rapid improvement, which is in turn followed by a period of little further improvement. Curve C illustrates the irregular nature of most learning curves, that is, how performance generally fluctuates during learning due to changes in motivation. (Pause)

Changes in motivation due to fear of failure, distraction, boredom, worry, etc., are reflected in the learning curve as plateaus, which indicate periods of little or no improvement, or valleys, which indicate periods of decreased performance.

There is some question among psychologists as to whether there is one process which we can call learning. There is no doubt, however, that there are different kinds of learning, and that different kinds of learning may occur simultaneously. We shall now discuss some of the different kinds of learning, the first of which is conditioning.

Soviet scientist Ivan Pavlov is credited with first experimenting with and reporting on conditioning in 1927. While experimenting with apparatus to measure the rate of salivation in dogs, Pavlov accidentally discovered that the animals responded by salivating not only when food was placed in their mouths, but also when they were exposed to the smell of food. Eventually, these dogs learned to associate the experimenter with the stimulus of food--they began to salivate when he appeared--later, they salivated at the sound of his footsteps. Later, Pavlov introduced various artificial stimuli--bells--or lights--so that they became associated with the feedings. (Pause)

Now look at Item 4.

Once again, these dogs responded by salivating in response to the artificial stimuli alone, once the association had been established. The salivation of the dogs in response to stimuli other than food represents a conditioned response. And, the learning process which makes possible such behavior is known as conditioning. The conditioning process involves two types of stimuli: first, an unconditioned stimulus which is capable of calling forth a given response--in the Pavlov experiment this was the meat--and, second, an initially neutral stimulus--in the Pavlov experiment this was the ringing bell. Thus, conditioning is effected by pairing a neutral stimulus with an unconditioned stimulus. As a result of the pairing, an association is ultimately established which causes the previously neutral stimulus to elicit the same response as the unconditioned stimulus. Pavlov's experiments were examples of classical conditioning. (Pause)

In classical conditioning the paired stimuli are presented in a controlled manner so that they are independent of anything the subject himself does. There are other kinds of conditioning besides classical conditioning. Laboratory experiments have demonstrated conditioning in which the subject makes an accidental discovery of the conditioned response that produces the unconditioned stimulus. This kind of experiment produces instrumental or operant conditioning.

Here is an example: In one experiment, a pigeon is placed in a box which has a number of keys positioned around the wall. The keys are inoperative except for one key. If the pigeon pecks this one key, it causes a box of pigeon food to be opened. After the pigeon pecks the proper key and receives food each time, he becomes conditioned. Subsequently, whenever the pigeon wishes to eat, he then selects and pecks only the food key. Here, the food is the unconditioned stimulus. The food is paired with the key--the neutral stimulus--to produce the conditioned response--the pecking of the key. Notice how the unconditioned stimulus in each of the examples we presented--in classical and operant conditioning--can function as a "reward"--or as positive reinforcement. (Pause)

Now look at Item 5.

Now, let us use the conditioning example to illustrate another kind of learning--discrimination. To discriminate is to distinguish between two or more different stimuli--or between stimulus and no stimulus. We define "distinguish between" as: "make different responses to." Therefore, you can say that discrimination has been demonstrated when an individual responds differently to different stimuli. The pigeon in the experimental box learned to discriminate between the keys and demonstrated this by pecking only the food key when he was hungry. (Pause)

Let us turn now to motor skill learning. This is typified by the process of learning to ride a bicycle. This requires motor skill, that is, behavior involving muscle activity. (Pause)

Now look at Item 6.

Marksmanship, golf, walking, knot-tying, and so forth, are all examples of learning which involve motor skills...they call for some degree of muscle development and coordination. (Pause)

Now look at Item 7.

Verbal learning is any learning that has to do primarily with words. When an instructor at the Academy asks a midshipman to define a term he has studied, the midshipman responds with a definition, indicating by his performance whether or not verbal learning has taken place.

As you can well imagine, it would be most unusual for any one type of learning to occur in isolation. It is far more typical for mixed learning to take place, that is, for more than one kind of learning to occur at the same time. For example, discrimination may involve both motor skill learning and verbal learning, and frequently involves both.

Attitude learning is the development, often through conditioning, of learned, emotionalized predispositions--you respond, in some consistent way, to people--things--or situations. Attitude learning is responsible for tendencies--toward prejudice or tolerance--toward selfishness or generosity--toward cynicism or loyalty--etc. (Pause)

Now look at Item 8.

The two flags shown here probably evoke entirely different emotions on your part. The patriotism, loyalty, or identification you feel toward the American flag is the result of a learned attitude, as is the feeling of disgust and outrage you might have toward the Nazi flag.

The last kind of learning we shall mention is problem-solving. This is learning in which already learned principles are applied in a new way in order to solve some problem. (Pause)

Now look at Item 9.

This Junior Officer of the Deck underway is experiencing problem-solving learning as he applies, in a real-life situation, principles which he learned at the Naval Academy. (Pause)

Now let us discuss some concepts and operations in controlling behavior. When an individual responds in a certain way to a given stimulus, that stimulus can be said to control his behavior. Research in learning has pointed out the need for and the importance of maintaining stimulus control if one wishes to change behavior or to teach new behavior. As a leader you will be required to modify, manipulate, and control your subordinates' behavior. (Pause)

Now look at Item 10.

These are the steps usually followed in achieving stimulus control:

1) Determine the specific behavior or change in behavior you wish to bring about
2) Identify the stimuli(stimulus) which presently control(s) or might control the target behavior
3) Arrange the stimulus conditions which will result in the desired response
4) Provide reinforcement for the desired response

Step 4 in the stimulus control process is especially important. After managing stimulus conditions to produce the desired response, the leader or teacher should provide consequences which will increase the likelihood that the desired response will be made again. This provision of consequences for behavior is known as reinforcement. Reinforcement may be either positive or negative.

By definition, positive reinforcement is that consequent event which by its occurrence increases the probability of the response it is contingent upon. Positive reinforcement might consist of a reward, recognition, knowledge of results (feedback), or simply the opportunity to continue some satisfying behavior.

Negative reinforcement occurs when an aversive stimulus may be terminated by some contingent response. For example, jail acts as negative reinforcement. Good behavior may cause the termination of the aversive stimulus--imprisonment. (Pause)

Reinforcement must be timely to be effective. It should be provided as soon as possible after the response has been made. This means that the awarding of a Medal of Honor eight months after an heroic act was performed might be considered equally timely as the pronouncement of "well done" immediately after an ordinary task had been well carried out. (Pause)

The process of successively reinforcing closer and closer approximations of the correct response is called shaping. (Pause)

Now look·at Item 11.

The instructor on the rifle range is using shaping when he provides reinforcement to the beginning student, even though he just barely manages to hit the target.

Later, when the student has had more practice, the instructor reinforces only those hits which are on or near the bull's-eye. Finally, he reinforces only those shots which are on the bull's-eye. (Pause)

Now look at Item 12.

By administering and withholding reinforcement according to successive approximations, the instructor has shaped the desired behavior. (Pause)

In shaping marksmanship behavior, the rifle range instructor varied the schedule of reinforcement. He provided a continuous reinforcement schedule in the beginning of training. Then, he switched to an intermittent reinforcement schedule after he decided that continuous reinforcement was no longer necessary or advisable. Continuous reinforcement simply means that reinforcement is provided every time the desired response is made. Learning is most effective if continuous reinforcement is provided at first. After the desired pattern of behavior has been established the intermittent reinforcement schedule may suffice to occasionally reinforce acceptable behavior when performance lapses slightly.

Research shows that behavior shaped using an intermittent reinforcement schedule is particularly resistant to extinction, in other words, less likely to disappear once reinforcement ceases. (Pause)

Now look at Item 13.

This diagram shows a number of different ways in which reinforcement may be scheduled. First, reinforcement may be administered according to the number of responses, that is, in a certain ratio to the number of performances. A catapult officer who gives the crew a smoke break after every 20 launchings provides reinforcement according to a fixed ratio: i.e., one reinforcement per 20 launchings. Reinforcement may also be administered according to a variable ratio, for example, in the way a slot machine is programed to pay off after a varying number of plays, perhaps two, perhaps seven, or thirteen plays.

Secondly, reinforcement may be scheduled according to intervals of time, not number of performances. Fixed interval reinforcement would then be the administering of reinforcement after certain fixed time periods, e.g., every two weeks. This is exemplified by the instructor who gives a test each two weeks, the reinforcement in this case being the feedback, that is, knowledge of results, which the students may use to evaluate their progress. Finally, reinforcement may be administered on a variable interval schedule. This is typified by the fixed number of required inspections which an assigned officer must conduct each month. The amount of time between such inspections is usually variable, unpredictable. Clearly, the kind of behavior being shaped, the previous training and personalities of the subjects, the situations under which shaping is taking place, are all factors which help determine the reinforcement schedule most appropriate for a given situation. (Pause)

So far, we have discussed ways of increasing the likelihood that a subordinate will make the responses you wish him to make.

However, a leader frequently encounters problems of the opposite nature. This leader may wish to suppress or eliminate undesirable behavior.

Extinction is the elimination of a response from an individual's repertoire through the withholding of all positive consequences for that response.

One way to extinguish an undesired response is to withhold positive reinforcement for that response. A response will ultimately disappear if all positive reinforcement for a response is eliminated. It is important that the reinforcement be eliminated entirely. Individuals resist extinction of any learned behavior. You probably have experienced or observed a build-up of resistance in situations where the behavior has been reinforced intermittently Thus, occasional lapses in withholding of reinforcement actually produce a variable reinforcement schedule--making extinction even more difficult than it was before the extinction effort began.

Another way to extinguish unwanted behavior is to reinforce incompatible behavior. This must be done simultaneously with the withholding of reinforcement. For example, supposing a member of the catapult crew were slacking off, yet receiving reinforcement of a smoke break along with all the other members of the crew. You could withhold his reinforcement by giving him some chore to do while the others were taking a smoke break, and at the same time make a point of praising him on the rare occasions when he appears to be working hard. You would thus reinforce a behavior (working hard) which is incompatible with the undesired behavior (slacking off). (Pause)

Punishment consists of presenting an aversive stimulus following an unwanted response. Punishment is presented for the purpose of decreasing the likelihood of the response being repeated. Aversive events used in the punishment process are known as punishers. Punishers are any circumstances which are painful, threatening, frightening, disturbing, uncomfortable, or boring; for example, extra duties, loss of pay, withholding of liberty, confinement, reprimands.

Punishment causes a decreased probability that an undesired response will be made. This is done by presenting an aversive event following the response. Use of punishment as a single means of controlling behavior has a shortcoming. It tends to suppress the unwanted behavior only as long as the threat of punishment persists. As soon as the threat is removed, the former behavior patterns usually tend to recur. (Pause)

Punishment can be useful in eliminating undesired behavior if it is used in conjunction with other operations--such as extinction of undesired responses--or--conditioning of alternative, desired responses.

Now look at Item 14.

As you can see in this illustration, presentation of punishment, in this case, a verbal reprimand, can also be used as a signal to the individual that he has made an undesired response. Once he understands this, he can better change his response to the desired one--provided, of course, that he knows what the desired response may be. In this case, the company officer, by explaining the correct manual of arms, is reinforcing the desired response. (Pause)

This is the end of Part Two, Segment III.

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment IV
Factors Affecting Learning

Audio Panel Book
(HAPB)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

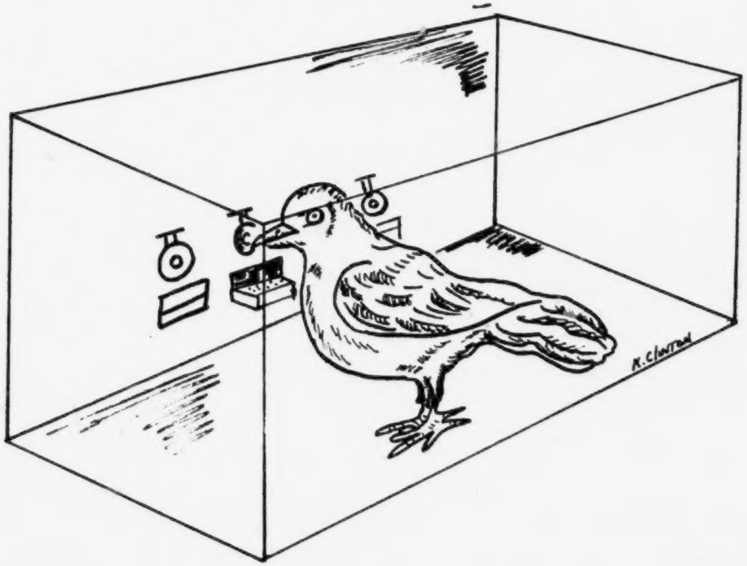
FOREWORD

> *"To every thing there is a season,*
> *and a time to every purpose under the heaven:*
> *A time to get, and a time to lose;*
> *a time to keep, and a time to cast away:"*
>
> *Ecclesiastes 3: 1, 6*

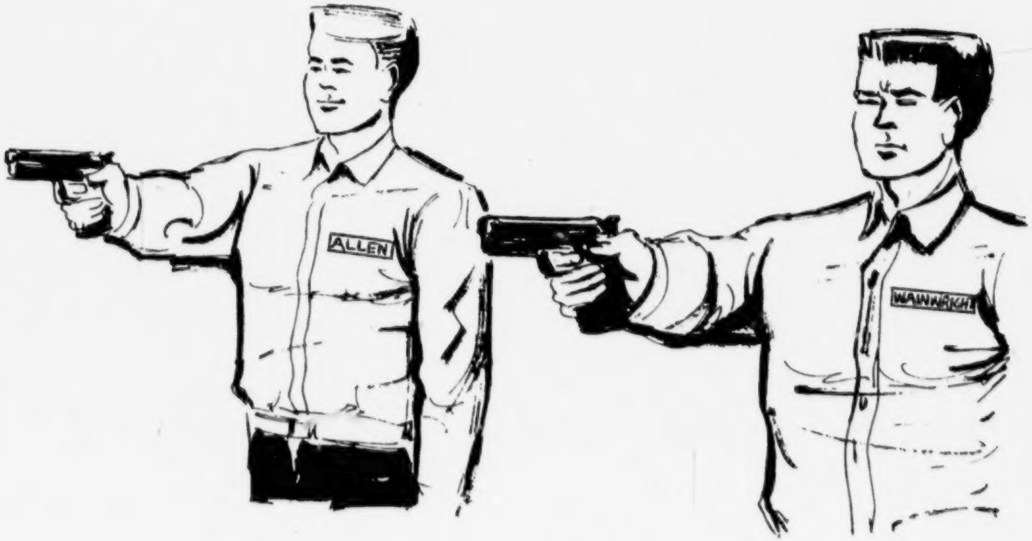
Learning capability is dependent on the situation, the person, the subject, and the method. Extensive research has been conducted on what makes for optimum learning. This segment takes an analytical look at the psychological principles behind particular problems that every learner faces: retention, short cuts to efficient use of time, variability of the task to be learned, and motivation. The reader should not be content to discover what may be helpful to him as a student on a day-to-day basis. It is more important that he file this material away in a memory bank for retrieval when he is later charged with the responsibility for training others.

FACTORS AFFECTING LEARNING

Item 1.



Item 2.


ALLEN
WAINWRIGHT

Question 1.

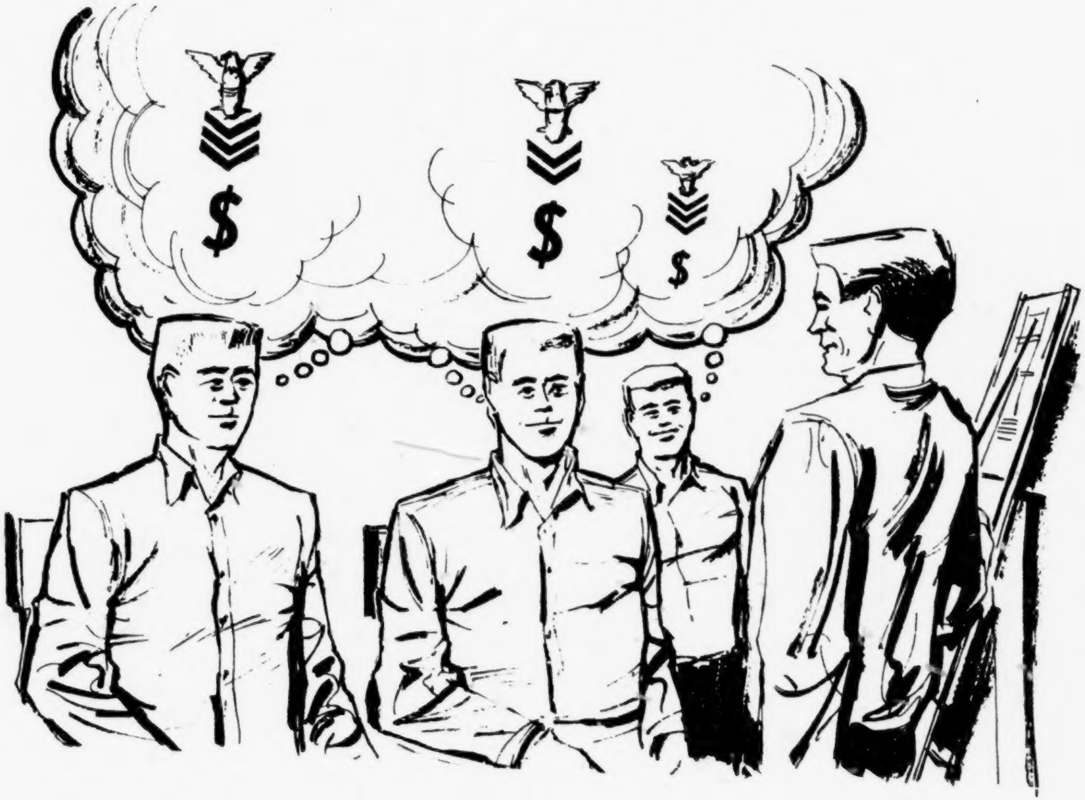
Select the statement which best differentiates between extrinsic and intrinsic motivation.

a. Extrinsic motivation operates to cause a person to engage in behavior to get a reward. Intrinsic motivation exists in behavior which is engaged in for its own sake.

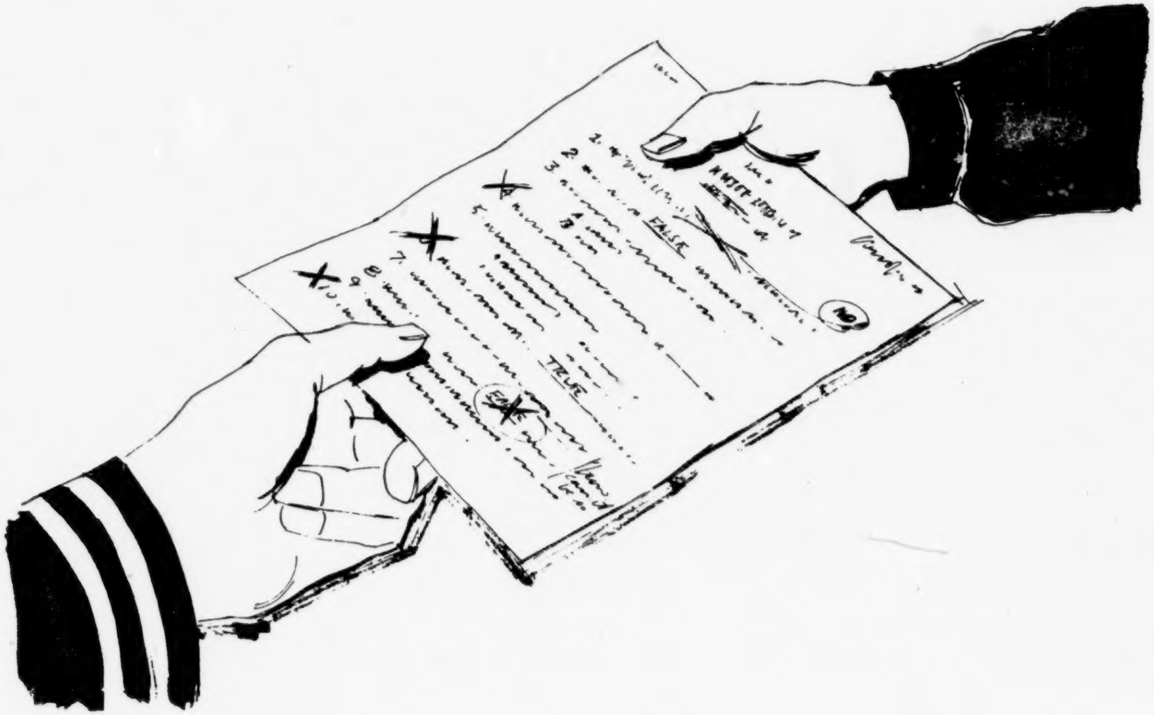
b. Extrinsic motivation results from the inherent reinforcing properties of a task. Intrinsic motivation is that which motivates a person to engage in behavior for the sake of a contingent reinforcing event which has no inherent relationship to the task.

c. Extrinsic motivation is any behavior which is reinforcing. Intrinsic motivation is any event which is reinforcing.

Item 3.



Item 4.



Question 2.

Choose from the following examples the ones in which prompt provision of reinforcement occurs.

a. Midshipmen fourth class who participate in the Summer Indoctrination Program are given marksmanship training at the North Severn rifle and pistol ranges. Upon completion of record day firing, those midshipmen who qualify as expert riflemen and pistol shooters are rewarded at a formation on the range with their expert medals.

b. A young Marine second lieutenant challenged his platoon to outshoot him during annual re-qualification firing. The platoon became enthusiastic about the contest and on record day, half the platoon fired higher scores than the platoon leader. As a reward the platoon leader gave each man firing a higher score than himself a 48-hour I.O.U. pass to be "cashed in" any time.

c. The skipper of a ship announces over the 1MC that a particular division has done an outstanding job in soliciting blood for an emergency blood donation campaign.

Question 3.

A company officer during plebe summer indoctrination has been assigned the task of training a large number of plebes, many with no previous military background, in the basic military arts, as well as familiarizing them with life at the Naval Academy and its routine discipline. Select the examples in which the company officer provides incentive for the plebes to learn.

a. The plebes are informed during their first week of training that the Commandant of Midshipmen has announced that the plebe company winning the most points in competitive plebe summer activities will be given an extra weekend of liberty prior to Parents' Weekend.

b. The company officer keeps a chart in his desk showing the progress of each plebe in the company.

c. The company officer keeps a large graph outside his office that shows the competitive standing of his company relative to other companies in the battalion.

Question 4.

In which examples is the learner receiving feedback?

a. A student spends four hours studying his text for a quiz the next day on differential equations.

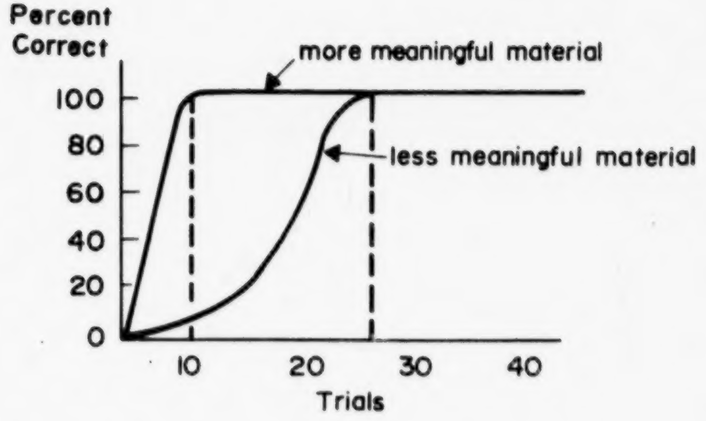
b. A history student receives his graded test paper back from his professor.

c. A plebe salutes the midshipman officer of the watch for the first time.

d. A midshipman learning to sail makes a mistake and his boat capsizes.

Item 5.

List A	List B
ZUR	Back
XIP	Chair
PAH	Food
QOT	Eat



Question 5.

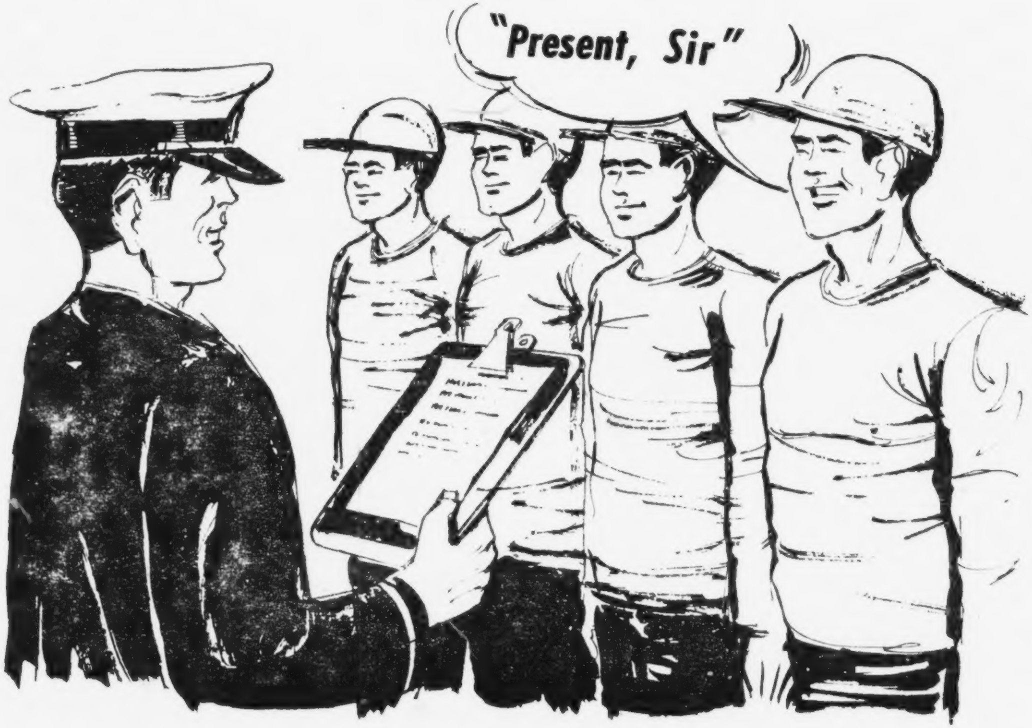
Which statement best describes the effect of meaningfulness on learning?

a. Learning takes place more quickly when the subject has few associations to interfere with the material to be learned.

b. The greater the number of associations a subject has to the material to be learned, the more quickly he will learn.

c. The more thoroughly material has been learned the more meaningful it can be to the learner.

Item 6.


"Present, Sir"

Item 7.

Verbal Association:

Stimulus → Desired Response

(stem) (smell)

Mediated Verbal Association:

Stimulus → Mediator → Desired Response

(stem) (flower) (smell)

Question 6.

A student of Latin is faced with the task of learning the Latin word "pugnare" for the English infinitive "to fight." He remembers that the English word "pugnacious" is another word for belligerent.

Which word or phrase is being used as the mediator?

a. Pugnacious

b. Pugnare

c. Belligerent

Item 8.

OPTIMUM RATE OF LEARNING

1, MATERIAL MUST BE MEANINGFUL.

2, ALREADY LEARNED RESPONSES ARE USED TO MEDIATE NEW STIMULUS-RESPONSE ASSOCIATIONS.

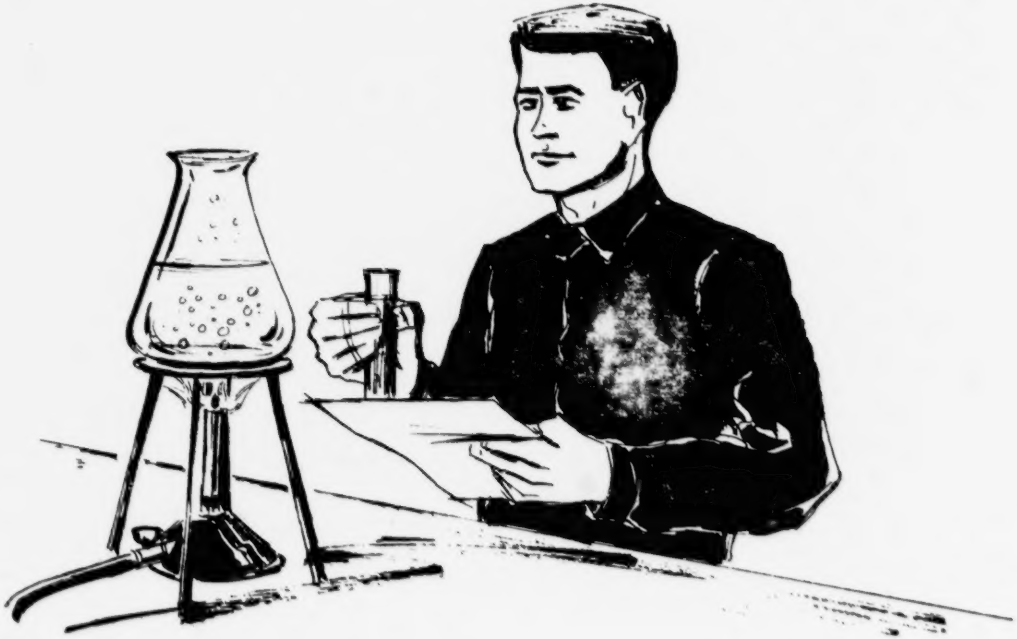
3, DETAILED FEEDBACK IS PROVIDED IMMEDIATELY FOLLOWING THE RESPONSE

Question 7.

Which of the following practice/rest cycles should you expect to be preferable when memorizing the Morse code?

a. 15-minute practice - 1 minute rest
b. 15-minute practice - 10 minute rest
c. 60-minute practice - 10 minute rest
d. 60-minute practice - 60 minute rest

Item 9.



Question 8.

Select the paragraph which best describes the effects of massed vs. distributed practice on learning.

a. Because they are boring, rote and motor learning tasks are best learned through massed practice which serves to get them over with quickly. Distributed practice is most effective for problem-solving because learning very small units of material is easier.

b. Distributed practice is best suited to boring and fatiguing learning tasks because of the long rest periods in between. Logical reasoning problems are dealt with most efficiently through massed practice because they are easier to tackle when divided into smaller segments.

c. Distributed practice avoids the lowered efficiency caused by fatigue or boredom and is thus superior for rote and motor learning. Learning of ideas and principles or problem-solving is best accomplished through initial massed practice.

Question 9.

MIDN Thumbs just can't seem to grasp the intricacies of tying a bowline knot--one of the most useful knots in seamanship. Bearing in mind the principles of meaningfulness, mediation, distribution of practice and feedback, the best way to teach him would be to:

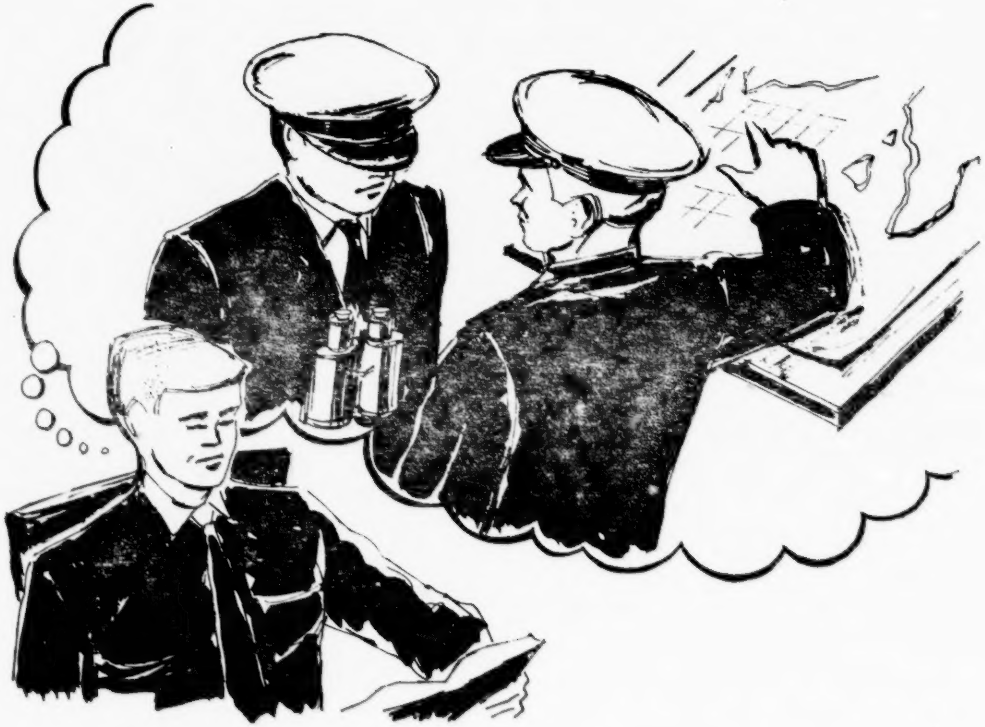
a. Give him detailed sketches with step-by-step procedures illustrated and numbered. Remind Thumbs that this knot will probably be used more frequently than any other in practical seamanship.

b. Explain the importance of knowing how to tie a non-slipping knot that becomes more secure as pressure is added. Have Thumbs practice at least an hour tying and untying bowline knots. Congratulate him when he succeeds and reward him with a "Well done!"

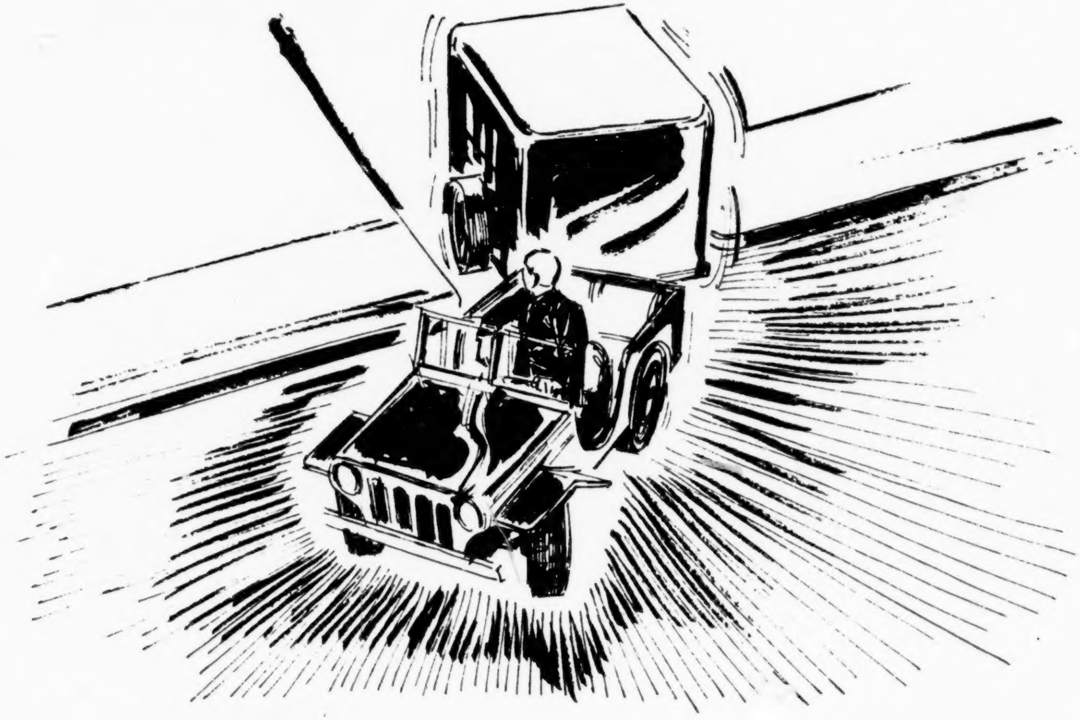
c. Explain where the knot is used and the importance of having a non-slip, non-loosening knot. Give Thumbs an aid to remember how to make the knot--"place a loop in the line and with the free end come up out of the hole--over the log--under the limb--over the log and back into the hole." Have him practice the knot several times during the day, and have someone who knows how to tie the bowline knot verify whether or not MIDN Thumbs has tied it correctly.

d. Give Thumbs illustrated sketches and have a practice session so that he can practice until he learns to tie the knot blindfolded.

Item 10.



Item 11.



Question 10.

Select the paragraph that correctly differentiates the concepts of negative and positive transfer.

a. Negative transfer occurs when a new task is more difficult to learn because of interference from a previously learned task. Positive transfer occurs when the learning of a prior task facilitates the learning of a new one.

b. Negative transfer results when the task to be learned involves making previously learned responses to new stimuli. Positive transfer results when new responses must be learned to old stimuli.

c. Learning to make new responses to old stimuli produces negative transfer. Learning to make old responses to new stimuli results in positive transfer.

Question 11.

Each item in the right column describes a pair of learning tasks. Match each pair with the kind of transfer that might be expected to occur.

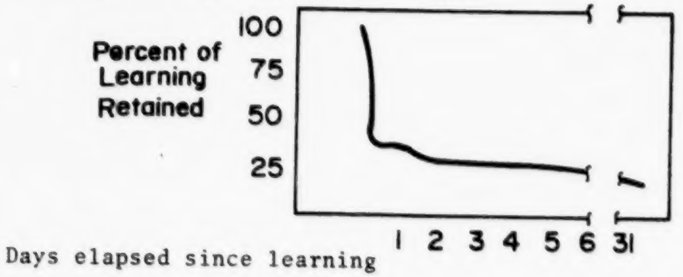
a. Positive transfer

b. Negative transfer

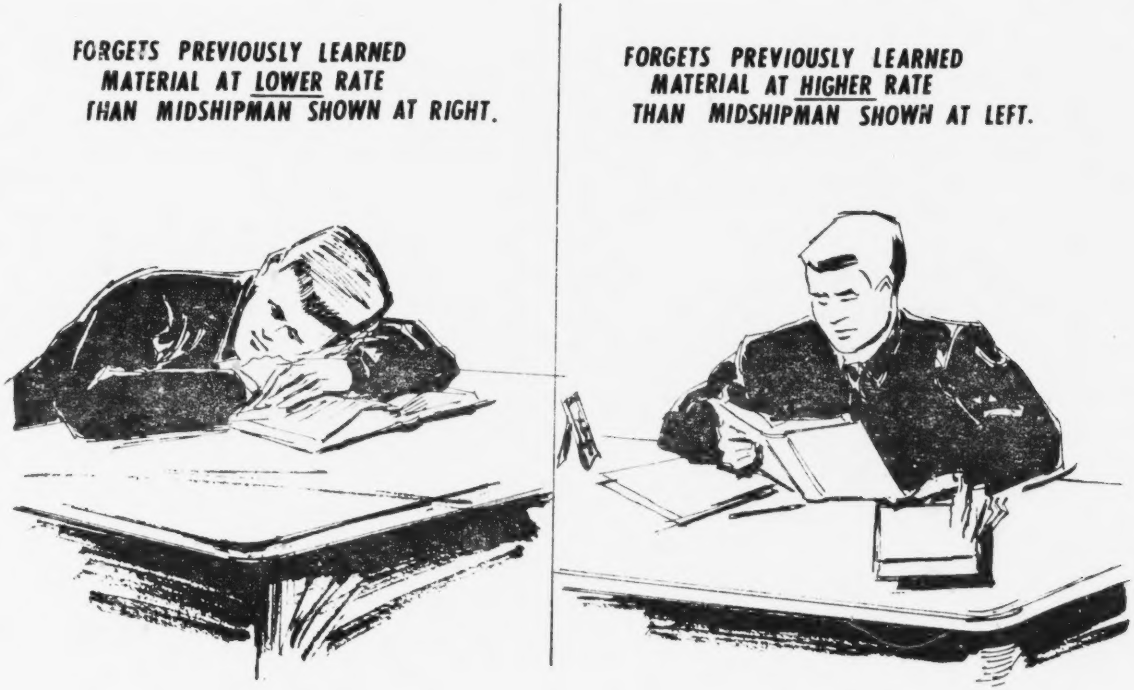
1. Learning to conjugate the German verb "machen"--to make (machte, gemacht) and learning to conjugate the German verb "decken"--to cover (deckte, gedeckt)
2. Learning to read a sentence aloud in French and learning to read the same sentence aloud in Spanish.
3. Learning that > means "is greater than" after you incorrectly learned it meant "is less than".
4. Learning to stop on a green light and go on red. Learning to stop on a red light and go on green.
5. Learning to find the sum of -8 plus - 27 and learning to find the sum of -52 plus -7.

Item 12.

The largest amount of forgetting
takes place right after learning.



Item 13.


FORGETS PREVIOUSLY LEARNED MATERIAL AT LOWER RATE THAN MIDSHIPMAN SHOWN AT RIGHT.
FORGETS PREVIOUSLY LEARNED MATERIAL AT HIGHER RATE THAN MIDSHIPMAN SHOWN AT LEFT.

Question 12.

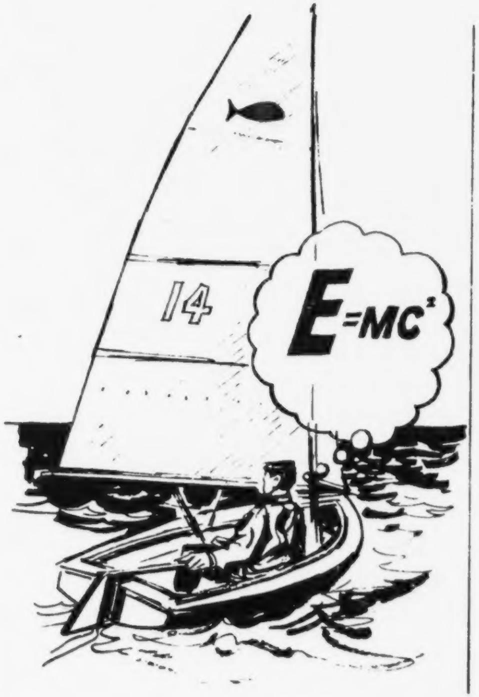
Select the correct definition of retroactive inhibition.

a. Retroactive inhibition occurs when new learning competes with the retention of a previously learned task.

b. Retroactive inhibition occurs when prior learning interferes with new learning.

c. Retroactive inhibition occurs when anything interferes with retention of previous learning.

Item 14.



Material Learned In Interim	Percent of the original List Recalled
SYNONYMS	12
ANTONYMS	18
UNRELATED ADJECTIVES	22
NONSENSE SYLLABLES	26
NUMBERS	37
INTERVAL OF REST	45

Item 15.

TWO LEARNING TASKS

WHEN STIMULI ARE	AND	WHEN RESPONSES ARE	THEN THE DEGREE OF INHIBITION IS	EXAMPLE
SIMILAR		SIMILAR	MINIMUM	SAILBOAT AND TILLER-STEERED MOTORBOAT
SIMILAR		ANTAGONISTIC	MAXIMUM	BACKING A JEEP WITH AND WITHOUT A TRAILER
DISSIMILAR		DISSIMILAR	MINIMUM	NUMBERS LEARNED AFTER LIST OF ADJECTIVES

Question 13.

In which example is loss of retention due to inadequate original learning?

a. A trainee has scanned the basic principles of his radar equipment in his training manual and has gone to sleep for 4 hours. Upon waking he can't recall any of the principles he learned.

b. A new recruit learns the name and rank of his Commanding Officer. After one day he has met many other officers and cannot recall the name of his Commanding Officer.

c. A student reads through and learns the Constitution of the United States once. In an exam three weeks later he cannot recall the 17th and 22nd amendments.

Question 14.

In which learning task is there most likely to be a loss of retention due to similarity in the stimuli or response factors?

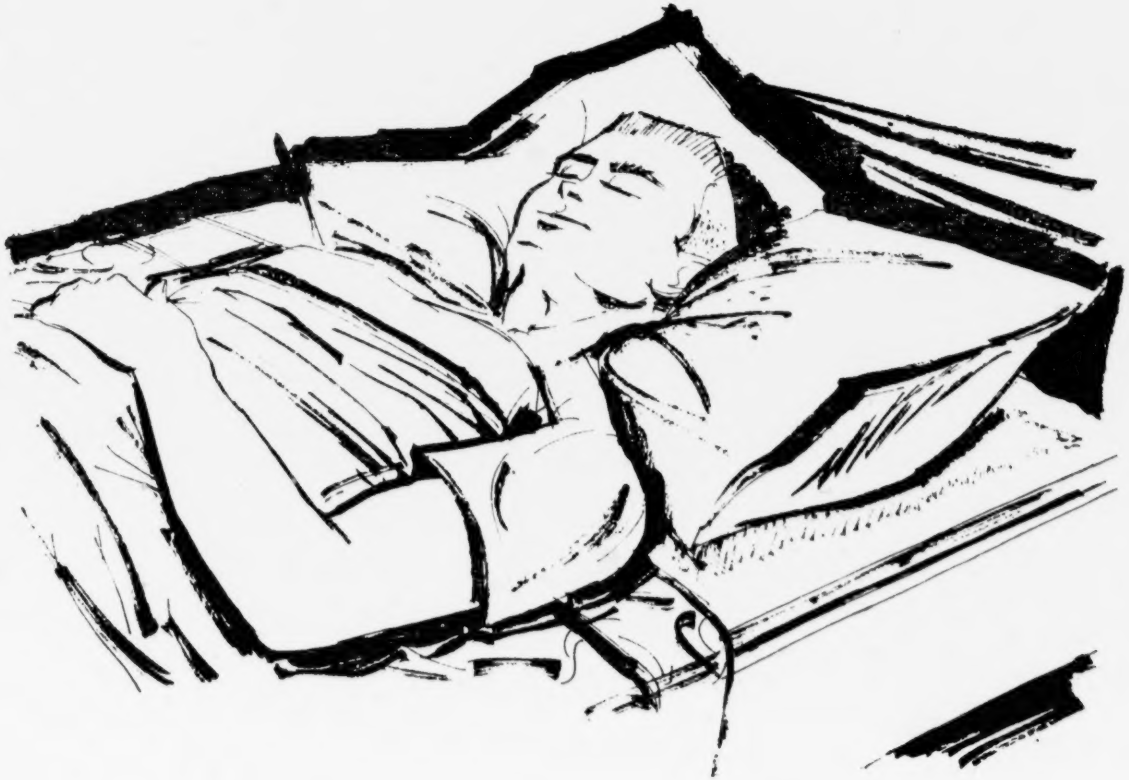
a. A midshipman who has never fired a gun of any kind must learn to fire a rifle for the first time.

b. A midshipman who has learned to translate Spanish to English is now taking a course in English literature.

c. A midshipman who can translate English to Spanish must now learn to translate the same English words into Italian.

d. A midshipman who once learned physics is now trying to master the principles of chemistry.

Item 16.



Question 15.

If a midshipman is required to learn a list of 20 French nouns by the end of the first week of class, which approach is most likely to promote retention?

a. Read over the list the first night but wait until the last night to memorize it. The more recently the list is memorized, the better it will be retained.

b. Read over the list and make as many meaningful associations to the words as possible. Learn the list the first night and practice a few times after learning. Go over the list briefly each night during the week.

c. Memorize the list thoroughly the first night. Review it briefly the last night making as many new associations as possible.

Question 16.

In order to increase the amount of information you retain, which of the following practices should you follow when you are studying?

a. Make an outline of the subject matter to make sure that you understand the relationships of the various elements in the course.

b. Read other books on the subject so that you become immersed in the subject matter covered.

c. Review the subject aloud with someone who is familiar with it.

d. Overlearn the material, using mediators where applicable, and review it as soon as possible after the initial learning period, with follow-up reviews if needed.

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment IV
Factors Affecting Learning

Progress Check

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

FACTORS AFFECTING LEARNING

PROGRESS CHECK

Question 1.

PO1 Tracy, a basic electronics instructor, always made it a point to compliment his students when their work warranted it. His class was assembling an instruction kit for a power supply. SA Cale, whose performance had been satisfactory, was having difficulty with the power supply section.

PO1 Tracy observed SA Cale for serveral minutes and then in a quiet voice talked to him asking him questions and correcting SA Cale's wrong responses. PO1 Tracy let SA Cale know when he thought that Cale had fully comprehended the material. PO1 Tracy publicly complimented Cale and encouraged other members of the class to do as well as Cale.

From the following choices, select the best method used by PO1 Tracy in the above example to teach the task.

a. Extrinsic reinforcement and intrinsic reinforcement

b. Feedback as an incentive and as a basis for adjusting behavior

c. Intrinsic reinforcement

d. Feedback as a basis for adjusting leader behavior only

Question 2.

From the following choices, select the two statements that respectively represent extrinsic and intrinsic reinforcement.

1) ENS Pratt consistently praises his men for jobs well-done, and gives rewards when they are deserved.

2) ENS Banner gives clear, concise instructions and then tests the men to see if they understand.

3) ENS Howe believes in physical fitness and practices PT for one hour each day.

4) ENS Slater informs his men about their progress and the relationship of their achievement to their behavior.

a. 3 extrinsic and 4 intrinsic

b. 2 extrinsic and 4 intrinsic

c. 1 extrinsic and 2 intrinsic

d. 1 extrinsic and 3 intrinsic

Question 3.

SN Roth was attending classes on how to use a soldering iron to make good solder joints in electronic equipment. Although he has studied the instruction material, he consistently made "cold" solder joints during practice. After several failures, SN Roth noticed that the soldering iron was not hot enough to completely melt the solder. He then remembered reading about this problem in the instruction material. When the solder was finally melting properly, SN Roth associated the flowing metal with samples of mercury he had seen before, and how the constant flow of metal left an evenly soldered joint. After several more practice attempts, SN Roth was able to make a good solder joint.

From the following choices, select the methods SN Roth used to learn his task.

a. Acquisition, motivation, and feedback

b. Meaningfulness, mediation, and distribution of practice

c. Extrinsic reinforcement, mediation, and feedback

d. Mediation, retention, and distribution of practice

Question 4.

From the following choices, select the statement that best describes the effect meaningfulness has on learning.

a. As meaningful association and meaningfulness of the task increases, fewer trials are necessary for learning.

b. Meaningfulness is a characteristic of learning that increases as the task progresses toward completion.

c. Meaningfulness and learning are functionally unrelated; thus the former does not affect learning rate.

d. Meaningful responses in an individual's repertoire do not increase his capability for learning new material.

Question 5.

From the following choices, select the statement that best describes the advantages of distributed practice.

a. Distributed practice is useful for learning ideas, principles and solving logical reasoning problems.

b. Distributed practice reinforces learning by using association, mediators, and positive transfer characteristics.

c. Distributed practice avoids dependency on the rote learning and the task vs. learning principles.

d. Distributed practice avoids the lowered efficiency caused by fatigue or boredom and is superior for rote learning up to a certain level of complexity.

Question 6.

LT Groves was conducting a basic training course on an M-60 air-cooled machine gun. PFC Colt accidentally dozed off for about five minutes of the lecture. However, he listened very closely to the summary the LT gave at the end of the lecture.

When PFC Colt was called to the firing line a few days later, he was unable to work the machine gun. He checked the mechanism and cleared the weapon several times. LT Groves finally had to show him how to set the header spacing.

From the following choices, select the statement that indicates the probably cause for PFC Colt's loss of retention.

a. PFC Colt dozed off because of keen competition in the field.

b. PFC Colt's original learning was inadequate because he heard only the summary statement concerning machine gun maintenance.

c. The time factor of a few days caused PFC Colt to forget the information he had learned.

d. PFC Colt was under stress and didn't respond correctly on the firing line, even though he knew what was required to make the machine gun operate.

Question 7.

In his fifth year as a Navy pilot, LCDR Abelman successfully completed transitional training from single-engine fixed-wing aircraft to rotary-wing aircraft. During training considerable stress and practice was given to emergency landing procedures, which are completely different from the procedures for fixed-wing aircraft. LCDR Abelman had no difficulty with the training and simulated emergency landings.

A few months after his assignment to a helicopter squadron, this pilot was returning to base at the end of a mission. Weather conditions had deteriorated during his mission and he was now faced with landing his "chopper" in rain, reduced visibility and winds gusting to force 3. As he approached the designated landing pad at 300 feet, the helicopter's engine failed without warning. Under the pressure of these circumstances, LCDR Abelman swiftly applied the proper emergency landing procedures--for fixed-wing aircraft. The helicopter crashed and, though crew injuries were light, the chopper was a total loss.

Select the statement which best describes the type of learning transfer that occurred during LCDR Abelman's training in emergency procedures.

a. Neutral/retroactive transfer

b. Negative transfer

c. Stimulus transfer

d. Positive transfer

Question 8.

MIDN Lane was having difficulty with History during the first few weeks of the course. From the following choices, select the statement that describes the approach he should employ to promote his retention of the subject material.

a. MIDN Lane should increase the amount of initial learning by continually practicing after acquirement.

b. MIDN Lane should review the learned material as soon as possible after learning, and as often as possible or necessary.

c. MIDN Lane should use mediation devices to increase retention.

d. All of the above

Question 9.

From the following choices, select the statement that correctly defines retroactive inhibition.

a. Retroactive inhibition refers to the reinforcement of highly similar responses by previous learning.

b. Retroactive inhibition is a state of learning resulting in fatigue, boredom, and lowered efficiency.

c. Retroactive inhibition refers to interpolated learning that may result in decreased performance on the original task.

d. Retroactive inhibition refers to difficulty in new learning due to competition.

Question 10.

MIDN Jarvis is having academic difficulties in remembering the correct method of solving explosives problems in the chemistry course. What principles of review should he employ to assist in increasing his retention of the material presented in class?

a. MIDN Jarvis should take detailed notes but wait until the next day to review them and concentrate on a noncompetitive subject as soon as possible after the chemistry class.

b. MIDN Jarvis should take mental notes only concentrating on what was said in class, get plenty of sleep the following night, and then write the notes out the next day.

c. As soon as possible after the class, MIDN Jarvis should practice doing the explosives problems, making mental and written notes as necessary. He should increase his practice time on the explosives problems between chemistry classes.

d. MIDN Jarvis should review the material only the night before scheduled chemistry classes and make the review the last thing before going to sleep.

PROGRESS CHECK ANSWER AND REMEDIATION FORM

PART Two SEGMENT IV

REMEDIATION TEXT Audio Script - VOL II-A

ITEM	ANSWER	REMEDIATION REFERENCE
1	b	Pages 4-6
2	d	Pages 1-4
3	b	Pages 6-12
4	a	Pages 6-7
5	d	Pages 10-12
6	b	Pages 15-16
7	b	Pages 12-14
8	d	Pages 15-20
9	c	Pages 16-17
10	c	Pages 17-20
11	☐	
12	☐	
13	☐	
14	☐	
15	☐	

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment IV
Factors Affecting Learning

Audio Script
(LATS)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

FACTORS AFFECTING LEARNING

In previous discussions, we dealt with some of the principles of learning, performance, and the control of behavior. These principles apply to the lower forms of animal life as well as to ourselves. Today's lesson devotes itself primarily to that human behavior that affects the acquisition and retention of verbal responses. Simply stated, we will answer the question: "Under what conditions does learning best occur?" (Pause)

Now look at Item 1.

Remember the example of the pigeon in the Skinner box from the last lesson. The pigeon pecks a key which opens a box of food, thus conditioning him to continue pecking the key. The food functions as a positive reinforcement of the pigeon's behavior--pecking the key. Thus positive reinforcement is an environmental consequence of behavior or activity which increases the likelihood that the behavior will recur. Reinforcement which is motivational by design is essential to the process of learning. The following example shows the difference between reinforcement that is extrinsic or externally controlled, and reinforcement that is intrinsically or internally generated. (Pause)

Now look at Item 2.

Here you see that two midshipmen, Allen and Wainwright, are engaged in marksmanship training with the caliber .45 pistol during Plebe Summer. Allen has been raised in an area where hunting was a favorite pastime. Wainwright comes from a large city where he has never had occasion to fire an individual weapon before. Both men are firing well enough to qualify as marksmen, but they are qualified for different reasons. Allen is thrilled at the challenge involved in mastering a different weapon, and the act of shooting provides its own reward. When a person such as Allen engages in an act for its own sake, the task is said to have intrinsic reinforcing properties. Wainwright, on the other hand, is extrinsically reinforced. He is visibly afraid of the weapon and obviously unhappy while firing, but he wishes to do well in this as in all his other Academy activities. As a result, he concentrates on each shot fired and does qualify as a marksman. Extrinsic reinforcement motivates a person to action, but has no inherent relationship to the task itself. Praise, grades, awards and decorations are all examples of extrinsic reinforcement. If a person is extrinsically reinforced, he will more probably exhibit the desired behavior if reinforcement immediately follows the response which it is reinforcing. Delay in reinforcing decreases the likelihood that the proper response will be learned. For the most part, intrinsic motivation is stronger than extrinsic motivation.

MIDN Allen, who derives pleasure from firing the pistol will probably sign up for the pistol team and spend many hours on the firing range. MIDN Wainwright will only fire the pistol as required during summer indoctrination and probably will never fire one again unless he has to. Actually most human behavior is both intrinsically and extrinsically motivated. Although Allen thoroughly enjoyed firing the pistol, he too was almost certainly motivated by a desire to do well. (Pause)

The point of the firing range example is that leaders should search for ways to build interest in tasks and skills for their own sakes. Subordinates thus reinforced will have a generally higher level of motivation than will men controlled through the traditional process of rewards and punishments. (Pause)

Now look at Item 3.

Let's look at another example of how motivation is used for learning. A junior officer is about to give a group of men training in gunnery. Before he begins, he informs them that successful completion of the course can mean advancement in rating and with it a raise in pay. The rating badges and money serve as reinforcers which, it is hoped, will provide a strong level of extrinsic motivation. Such a reinforcer is known as an incentive. The term incentive describes something that is deliberately used by someone to motivate behavior. On a larger scale, a community that is seeking new industry may provide economic incentives in order to motivate corporations to build plants within the community. The community may write a tax law providing for high write-off and deductions for new facilities. In the lab, a psychologist may use food as an incentive to motivate a hungry pigeon in the Skinner box to learn to discriminate between different keys. Motivation can also be described in terms of an "if/then" relationship. "If" you work overtime, "then" we will pay you time-and-a-half. "If" the individual makes the desired response, "then" time-and-a-half is assumed to be an effective incentive. Incentives, then, contribute to motivation, and motivation is particularly important to reinforcement when the individual is acquiring new behavior. There are degrees of motivation. The more highly motivated person is more likely to learn. 'Reinforcement and motivation are most effective when combined with another learning factor called feedback. Let us look at an example. (Pause)

Now look at Item 4.

This is a scene familiar to all of us. A professor hands a midshipman a corrected paper. From the corrections, the midshipman can determine whether or not his answers--or his responses--are correct. He is receiving information on the results of his behavior. In psychological terms, the corrections are providing him feedback of information--or, more simply, feedback. Feedback is an extremely valuable element in the control of behavior. It enhances both the learning of new responses and the motivation to perform those responses in the future. A student takes the feedback he gets on his test papers for granted--but imagine what classroom learning would be like if there were no feedback. If your papers were not corrected and graded and if there were no comment on what you said, you would have no way of knowing whether your responses were correct and whether your actions were producing the desired outcome. With feedback, however, you have a basis for adjusting your behavior to compensate for errors. You are able to eliminate responses that are shown to be incorrect and, if you know the degree of error, you can precisely correct those responses which are partially wrong. There are, of course, varying degrees of feedback. If a professor simply puts a grade on your paper, it would give you an idea of your overall performance but would be of minimal value as a learning aid. Much more effective would be specific corrections relating to each element of your work. Research results indicate that if a person receives feedback as to the correctness of his performance, he will learn more quickly than an equally motivated person who receives no feedback whatsoever. Like reinforcement, feedback is most effective when provided immediately after a response. In marksmanship, feedback after each shot, telling you precisely where it had hit, would be more effective than the usual procedure of checking the target only after several rounds. But within limits, even delayed feedback is better than none at all. Feedback need not come from another person. For example, the marksman who sees his bullet holes in the target receives just as much immediate feedback as the one who is informed of his accuracy by a colleague. Feedback can also function as an incentive. The mere awareness of progress, which is relayed to the learner by means of feedback serves to motivate behavior. In any attempt to improve a subordinate's learning, a leader should use feedback. Feedback, when used as an incentive increases motivation to learn. (Pause)

This concludes our discussion of some general characteristics of the learning factors. We now move on to some more detailed aspects of learning factors. Our first concern is with those factors that influence verbal learning, one of which is verbal association--the relationships between words. (Pause)

Now look at Item 5.

Notice here that we are showing you two lists. The first consists of random arrangements of letters. None of the arrangements can be associated with words in the English language. They are nonsense syllables. List B consists of syllables which have meaning to us. They are words to which we have already learned to make associations. Which list would be easier to memorize? List B, obviously. The reason is that List B is more meaningful to us. Anytime we attempt to learn material involving verbal associations--whether it be memorizing a list of words or assimilating a lecture on leadership--the ease and speed with which we learn depends on the meaningfulness of the material. As we use the term meaningfulness here, it is not in the usual sense. Meaningfulness can be measured by the number of associations an individual makes to a specified stimulus in a given period of time. You may ask, for example, how many other words a person can associate with a given word in one minute. The more associations there are, the more meaningful the word. Laboratory studies involving memorization of lists similar to those you just saw bear this out. The more meaningful the material is to the subject, the more quickly it is learned. This is illustrated in the hypothetical graph. Let's say that the upper curve represents the memorization pattern for familiar one-syllable words, and that the lower curve represents the pattern for nonsense syllables. The less meaningful material might require 26 trials before a subject memorizes the whole list, while the more meaningful material --the actual words--might require only 10 trials. In addition to the association of meanings, verbal learning involves the association of stimuli and responses where either or both are words. (Pause)

Now look at Item 6.

In the drawing, an ensign and a seaman are both engaging in verbal behavior. In this case the ensign is providing the stimulus and the seaman the response. The ensign calls the seaman's last name, "Maxwell," and the seaman responds, "Present, Sir!" Observe, however, that the seaman's last name can function as either a stimulus or a response. As the stimulus, with the ensign saying, "Maxwell!" the seaman responds, "Present, Sir!" On the other hand, if the stimulus were to consist of the ensign's command, "Sound off!" "Maxwell" would then become the response. In this example, the connection between stimulus and response is quite clear. In earlier phases of the learning process, however, associations are facilitated by the use of verbal mediators. A verbal mediator is a previously learned and already meaningful verbal response. It can be interposed between a stimulus and a desired response. The verbal mediator serves as a link and a new verbal association develops because of the mediator. As an example, let's look into the area of electronics. We are studying the values of resistors and want to remember that a brown or copper-colored band on a resistor signifies the number one. It is possible, of course, for an instructor to simply require that his students memorize that "copper" means "one." In time, they will do so. The process can be made easier, however, by using a verbal mediator --by interposing a new verbal association between the stimulus and response terms. Think, for a moment, then, of a possible verbal mediator between the two words, "copper" and "one." How about "penny"? A penny is copper-colored; a penny has a value of one cent. Once an instructor communicates the association, his students are likely to think "one" each time they see a copper band. In this case the use of a mediational device will increase retention. (Pause)

For a look at the way the use of verbal mediators can be diagramed, look at Item 7.

Suppose you want to associate the word "stem" with the word "smell." You could simply memorize the association, in which case we could represent the process in the first diagram. Use of a verbal mediator, however, will make learning easier. You can associate "stem" with "flower" and then associate "flower" with "smell." The association in both cases is considerably more meaningful than that between the two initial words. In summary, a mediator is a meaningful response already in a person's repertoire. It functions to enhance learning by facilitating association of that meaningful response with new stimuli. Heightened meaningfulness makes learning easier. As a result, any verbal mediator which increases the meaningfulness of a verbal association is likely to speed up learning. This is a device which is particularly useful to the leader when he is required to teach.

Now look at Item 8.

There are, then, three essential conditions if learning is to progress at the fastest possible rate. First, the material being taught should be meaningful. Second, the learning process should be structured so that previously learned responses will mediate the new stimulus-response associations. Third, detailed feedback as to the extent and direction of all errors must be provided immediately following each response.

Yet even under the best conditions, it is usually necessary for a learner to practice repeatedly before he has mastered a new skill or association. Thus, we must also concern ourselves with the possible ways of scheduling practice time. We have to know which schedule best facilitates learning. Should a leader assign long practice periods, separated by long rest periods? Or should he schedule short practice periods? The fact is there is no simple answer. Massed practice--a schedule using long, concentrated practice periods--is better for some kinds of tasks. Distributed practice--with short, spaced periods--is better for others. The nature of the learning task and the act of learning are the factors which determine the effectiveness of the two kinds of practice. We can, however, make some generalizations. When we are teaching motor skills, or rote memorization, it is normally more effective to keep practice periods short--to keep them well distributed. Motor tasks practiced for long periods of time tend to bring about muscular fatigue and falling off in coordination. This, in turn, leads to regression in performance. Rote memorization conducted over a long period simply becomes boring. Fatigue, boredom and regression in performance all undermine motivation--and this, of course, cuts down on the rate of learning. A significant experiment in this area took place at the Naval Academy in 1966. In one part of the experiment, three groups of midshipmen were asked to write the alphabet upside down, backwards, and from right to left. Each was given five minutes in which to perform this rather unchallenging task as many times as possible. Group one, however, had massed practice--the midshipmen wrote for five minutes straight without resting. Group two was given a thirty-second rest at the end of each minute of practice, while group three was given a one-minute rest after each minute of practice. As you might guess from the boring nature of the task, the two groups with distributed practice outscored the group with massed practice. In addition, the group that took one-minute rests outscored the group with thirty-second rest periods. Other things being equal, longer rest periods usually result in faster learning of routine tasks. (Pause)

Now look at Item 9.

Let's suppose your class is given a lab problem in chemistry which requires each of you to determine certain characteristics of a given substance. Your instructor estimates that it should take about 30 minutes for each student to solve the problem, so thirty minutes is what he gives you. Suppose, however, that half of the class is required to work in one-minute segments interspersed with half-minute rest breaks, while the other half is required to perform the task in a single thirty-minute period. Assume, finally, that you find chemistry fascinating and lab problems challenging--in which group do you think you would be able to perform most effectively? Previous studies indicate that you would be more likely to solve the problem under the latter--massed practice--schedule. For one thing, tasks of this sort tend to be relatively interesting so that students can work on them for longer time periods without loss of motivation. Also, the longer periods enable students to learn the material in meaningful units. For learning ideas and principles and for solving logical reasoning problems, then, it is usually more effective to start out with a concentrated period of massed practice. Later on, it is often better to switch to a schedule utilizing distributed practice. We move now from the factors affecting acquisition of learning to those factors which affect the applications of what has been learned. (Pause)

Now look at Item 10.

Think, for a moment, about what you're doing here in an institution of higher learning. Is it the purpose of a formal education to impart knowledge for its own sake? Perhaps to some extent it is. A more significant function, however, would be to prepare you to solve problems which will arise after you leave the Academy. What you learn inside the classroom should make it possible for you to learn additional tasks outside the classroom. The midshipman in the drawing is learning in the classroom about navigation. Even so, his course is not likely to prepare him for all the situations he could find himself in while actually navigating a ship. It should, however, help him to deal with these situations when they arise. First, it will make the situation more meaningful to him. Second, it provides him with mediators to use in new stimulus-response situations. On his summer cruise, then, the midshipman will utilize previously learned responses. This process is called transfer of learning. When the midshipman applies his classroom knowledge to solving problems arising on a ship's bridge, he is exhibiting positive transfer of learning. This occurs when the learning of a prior task facilitates the learning of a present task. If, on the other hand, the learning of a prior task competes or interferes with the learning of a present task, we have a case of negative transfer of learning. Positive transfer of learning can occur only when the already-learned task and the new task have similar stimulus-response combinations. Suppose you wanted to learn how to ride a motorcycle. The task would obviously be much easier if you knew how to ride a bicycle. You would know how to keep your balance on a two-wheeled vehicle and you would know how to turn and steer by leaning your body. In other words, you would be making old responses to new stimuli. If, in addition, you knew how to drive a car, your task would be easier yet. You would know how to apply a foot-brake and accelerate an engine. Now notice that there are certain similarities between the motorcycle and this particular car which do not occur with all cars. If you had driven only cars with automatic transmissions you would not have the experience of shifting gears and of coordinating the clutch and accelerator. As a result, there would not be as much positive transfer as there would be if you knew how to operate a stick shift. We can probably assume that positive transfer is greater when there is a high degree of learning in the old task--that a highly-experienced auto driver, for example, might learn to drive a motorcycle more quickly than somebody just learning to drive a car. This is an assumption, however, which psychologists have found difficult to prove. (Pause)

Now look at Item 11.

All of us, from time to time have been in situations where the response we were conditioned to make was not the response we should have made. Fortunately, the results are not always as unnerving as the result shown here. The lieutenant's problem is that he is in the habit of driving the jeep by itself. He is used to turning the steering wheel to the left when he wants to go left and to the right when he wants to go right. Things are reversed, however, when he tries to back up the jeep with the trailer attached. To steer the trailer to the left, he must move the steering wheel to the right, and vice versa. The lieutenant would find it far easier to back the trailer down the road if he had never learned how to back up the jeep by itself. He is a victim, of course, of negative transfer. This is what happens when it is necessary to make new responses to old stimuli. The reason that negative transfer impedes present learning is that the old, already-learned responses to the stimuli get in the way of the new responses. They interfere or compete with them. Essentially, it is necessary to unlearn the old responses--at least in regard to the new situation--before you can learn the new responses. The learning process is necessarily longer and more difficult.

Now look at Item 12.

In a discussion of learning new behavior, the topics of retention and forgetting are of great importance. This graph deals with a hypothetical, but typical, learning experience. The curve indicates the division between the amount of learning retained and the amount forgotten at any given time. Retention and forgetting, of course, are opposites. What is not retained is forgotten--what is not forgotten is retained. The graph's most significant message is that the greatest amount of forgetting takes place immediately after learning occurs. This is typical. Observe that in the first hour retention dropped from 100% to nearly 30%--a drop of about 70%. Yet in the following 47 hours retention dropped only another 10% or so. (Pause)

One point we should make briefly, before we deal with some of the causes of forgetting, is the belief that the better material is learned, the better it is retained. A student who studies his material carefully will usually retain it better than one who simply glances over it. That which is only partially learned certainly can't be completely retained. The more meaningful the material, the better it is learned and therefore retained. The use of effective verbal mediators can often aid retention, partly because they make the material more meaningful. (Pause)

Now look at Item 13.

In a famous series of experiments performed in 1924 by Jenkins and Dallenbach, it was demonstrated that humans forget relatively little while asleep. This indicates that forgetting is not simply a product of the passage of time. What Jenkins and Dallenbach discovered was that new learning interfered with the recall of the old material and resulted in forgetting. This process--by which the learning of a new task interferes with the performance or the recall of the old task--is known as retroactive inhibition--"retroactive" because the process affects learning which had taken place previously; "inhibition" because there is a blocking of performance or recall. You may have already spotted the relationship between retroactive inhibition and negative transfer. We spoke about how experience in backing up the jeep by itself makes it difficult to steer backwards a jeep which has a trailer attached. Now let's carry the example further. The lieutenant spends several days practicing with a trailer limbered to the jeep. At this point, he is likely to have trouble readjusting to driving the jeep by itself. With negative transfer, prior learning--steering the jeep backwards by itself--interferes with new learning--steering the jeep backwards with a trailer attached. With retroactive inhibition, new learning--steering a jeep and trailer backwards--interferes with retention of prior learning--backing up a jeep by itself. (Pause)

Now look at Item 14.

We have suggested that, after learning to steer a jeep and trailer backwards, retroactive inhibition would decrease retention of normal automobile steering skills. The reason for this is that the individual has learned an opposite response to similar stimuli. However, interference would be greatly diminished if the two learning tasks required similar responses to similar stimuli. If the individual were skilled in steering a sailboat rather than a car, there would be far less of both negative transfer and retroactive inhibition when he began steering a tiller-steered motorboat. In the picture the midshipman is learning to steer a sailboat while his head is filled with a recently-learned statistical formula. In this case, the two learning tasks are so entirely dissimilar that there is little interference. Learning the response of steering the boat has little effect on the midshipman's retention of the formula. The table gives the results of an interesting experiment in the area of retention of similar materials. Six groups of students were given a list of adjectives to memorize. There was a ten-minute interval between memorization and testing. During this period, five of the groups were assigned different tasks, the sixth group merely rested. Group one memorized a list of adjectives composed of synonyms of the words in the test list. Group two memorized a list of antonyms, group three, a list of unrelated adjectives, group four, nonsense syllables, and group five, sets of numbers. As you can see by the results, the group that learned nothing--that rested--displayed the highest rate of retention. Among the other groups, the degree of retention of the test list was in inverse proportion to the similarity of the list memorized during the interval, to the test list. This indicates that retention and forgetting are related to similarity of materials learned. (Pause)

Now look at Item 15.

This was further spelled out through research done by Osgood in 1949. His findings showed that a minimum of inhibition occurred when both the stimuli and responses are nearly identical in both learning tasks. The example of the sailboat and the tiller-steered motorboat would be an illustration. The maximum amount of interference took place when the stimuli were identical but the responses were antagonistic--steering a jeep backwards with and without a trailer. For responses that are not identical, minimum interference occurs when the stimuli are dissimilar. In the case of the word-list experiment, the most dissimilar stimulus is the list of numbers and, as expected, produces the least interference of all the learning tasks.

Now look at Item 16.

This picture is an easy way to maximize your retention of learned material but unfortunately it is impractical. Beyond this, the most effective thing you can do is learn your material as thoroughly and as firmly as possible. One way you can do this is to search for mediational devices to make the material more meaningful. A good instructor or a good textbook will provide you with a good supply of mediators. A good student will devise additional ones for his own use. Another thing you can do is overlearn your material. This involves continued study of the material after you have barely mastered it. Let's assume that you are required to memorize a dozen chemical formulae. Suppose it takes you a dozen times of going over the list before you have it memorized--or mastered. If you then go over the list--or practice--an additional dozen times, you have accomplished 100% overlearning. Experiments indicate that 50% overlearning produces a considerable improvement in recall, particularly over a period of time. Mere mastery might be enough to keep the list in your mind for an hour or so--until you have gotten through a test on it, for example. Overlearning helps you retain the material over longer periods of time. Psychologists generally categorize overlearning as part of the learning process.

Review, on the other hand, is a matter of subsequent practice. You learn to drive a car and then constantly review your learning by driving almost every day. If you were to periodically utilize the chemical formulae you learned in lab work, you would not be likely to forget them too readily. Review, then, is a significant aid to retention. Review is particularly useful when done shortly after the initial learning process. If you were to review your list of formulae the day after you learned it--or better yet, later the same day--it would probably be more useful than review a week after learning.

For optimum retention, then, go to sleep immediately and stay asleep. If that isn't practical, concentrate on learning your material as well as possible. To help you do this, devise mediators in order to make the material more meaningful, carry the learning process beyond mere mastery by employing overlearning, and promote retention of the material from time to time through review.

This is the end of Part Two, Segment IV.

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO

INDIVIDUAL BEHAVIOR

Segment V

Attention and Perception

Audio Panel Book

(HAPB)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

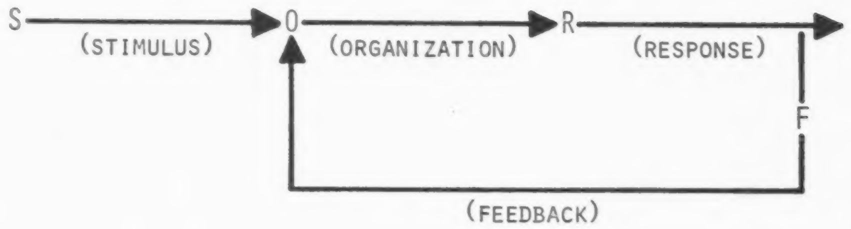
FOREWORD

"Every shut eye ain't asleep"
an American Negro Proverb

Science is beginning to get a more detailed picture of how the sensory organs function as dynamic information processing systems, and the phenomenon of optical illusions has always intrigued even the amateur psychologist. This segment considers principles of sensory responses and lays the groundwork for some of the more complex patterns of perception. Environments, group pressures, and prejudices are only a few of the factors that influence the shut eye that ain't asleep.

ATTENTION AND PERCEPTION

Item 1.

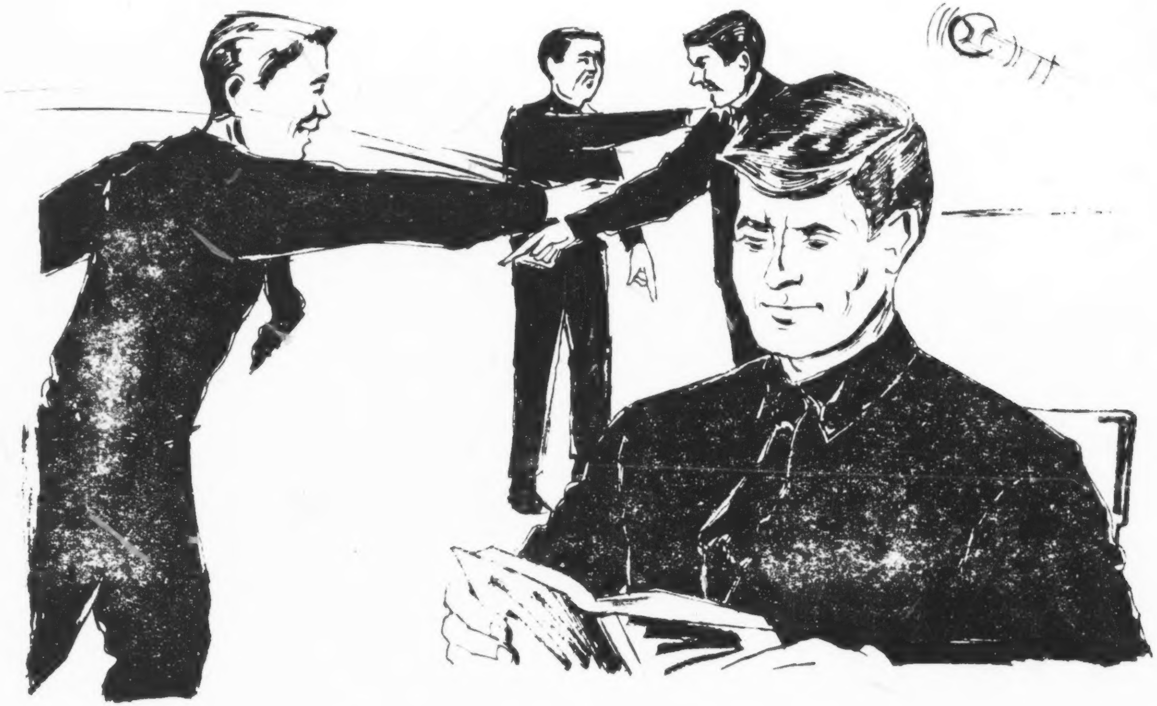

S
(STIMULUS)
O
(ORGANIZATION)
R
(RESPONSE)
F
(FEEDBACK)

Item 2.

A. ATTENTION: SELECTION OF STIMULI

B. PERCEPTION: DISCRIMINATION AND INTERPRETATION OF STIMULI

Item 3.



Question 1.

Which of the following is the best definition of attention?

a. A response by which an organism distinguishes or selects specific stimulus elements from all the stimuli presented to us by our environment at any given time

b. The process by which our sensory receptors interpret stimuli within our absolute or differential thresholds

c. A set of stimuli which is selectively perceived by an organism from the general complex of stimuli within our absolute and differential thresholds

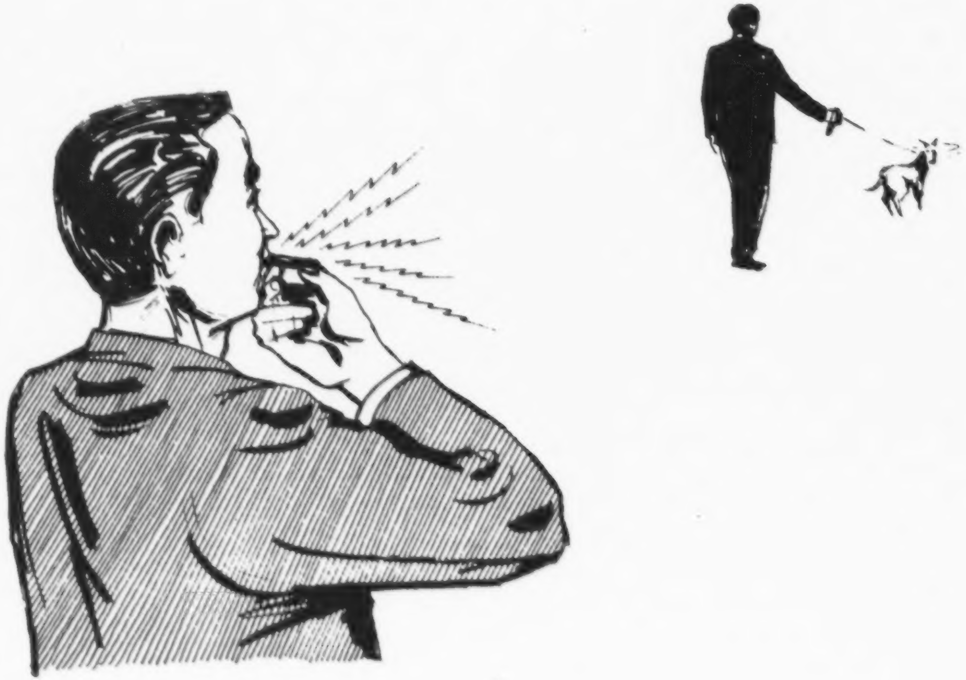
Question 2.

Match each set of senses to the type of energy to which it responds.

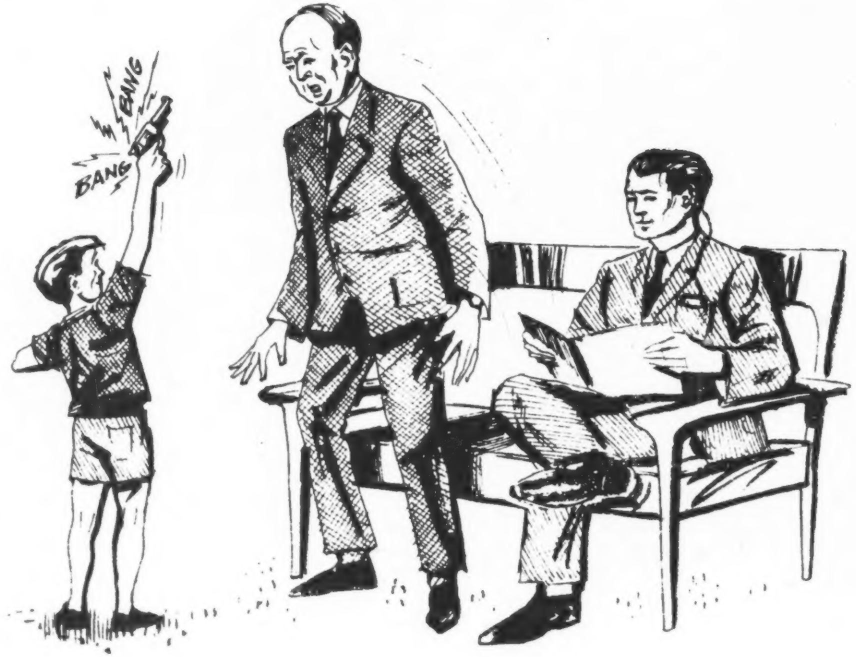
a. Warmth and cold
b. Touch and hearing
c. Smell and taste
d. Sight

1. Mechanical energy
2. Chemical energy
3. Kinetic energy
4. Electromagnetic energy
5. Thermal energy

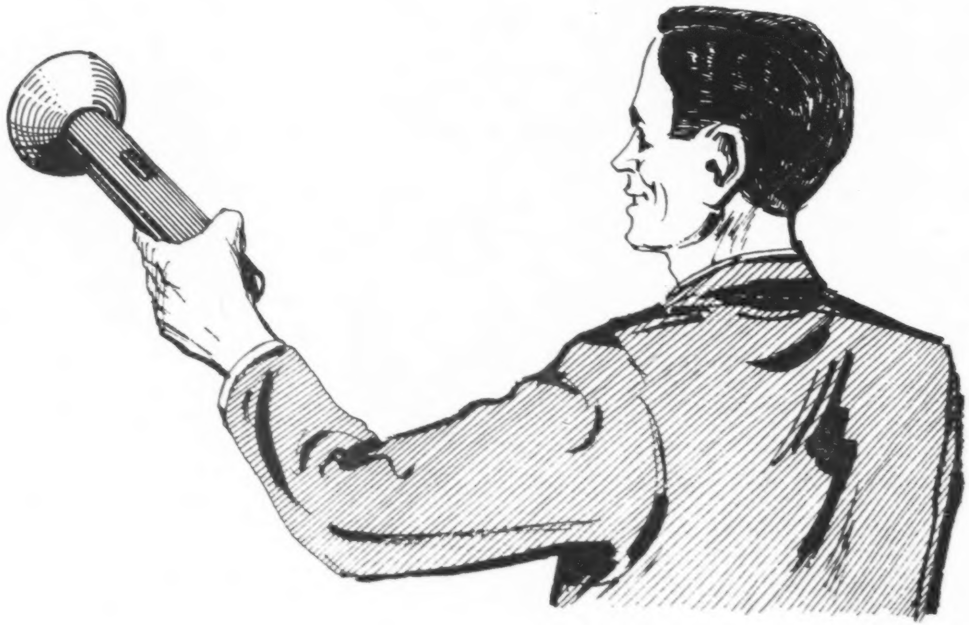
Item 4.



Item 5.



Item 6.



Question 3.

Which of the following correctly summarize the way different individuals perceive stimuli?

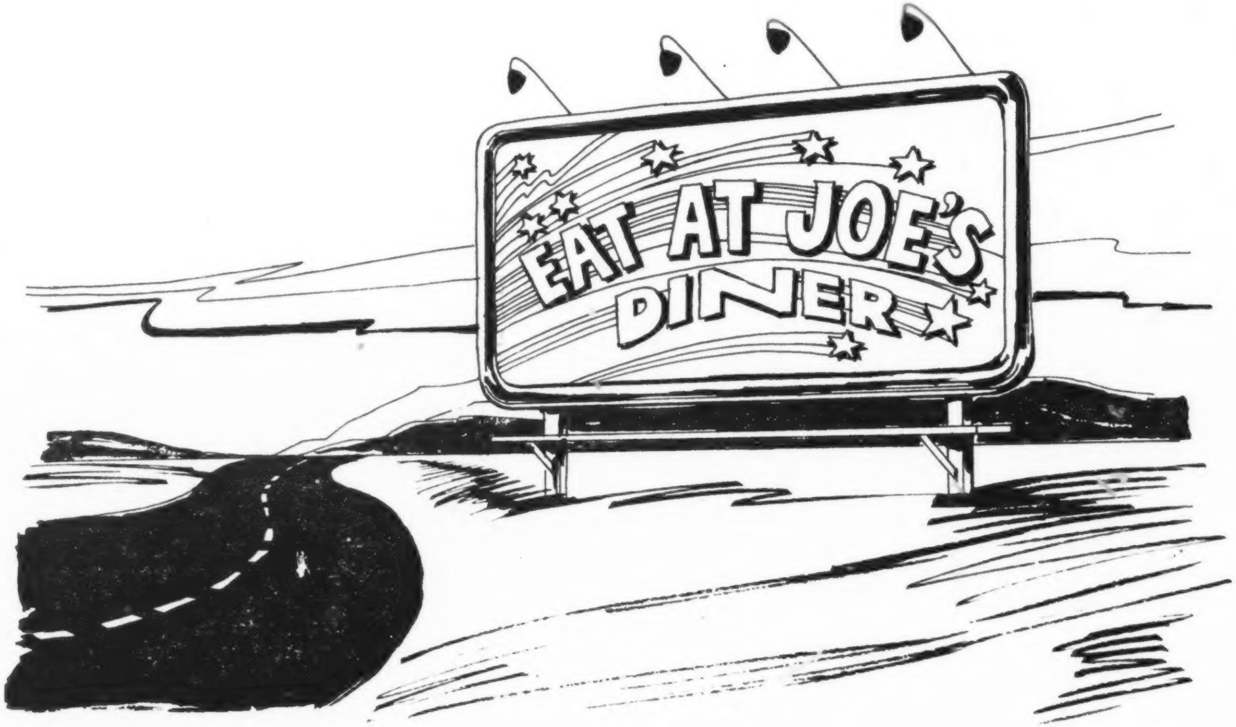
a. The intensity of the attributes of a given stimulus is a property of the stimulus itself. Each individual perceives the same degree of intensity of a given stimulus.

b. Attributes are perceived aspects of stimuli. Individuals interpret stimuli regardless of the intensity of the attributes they perceive.

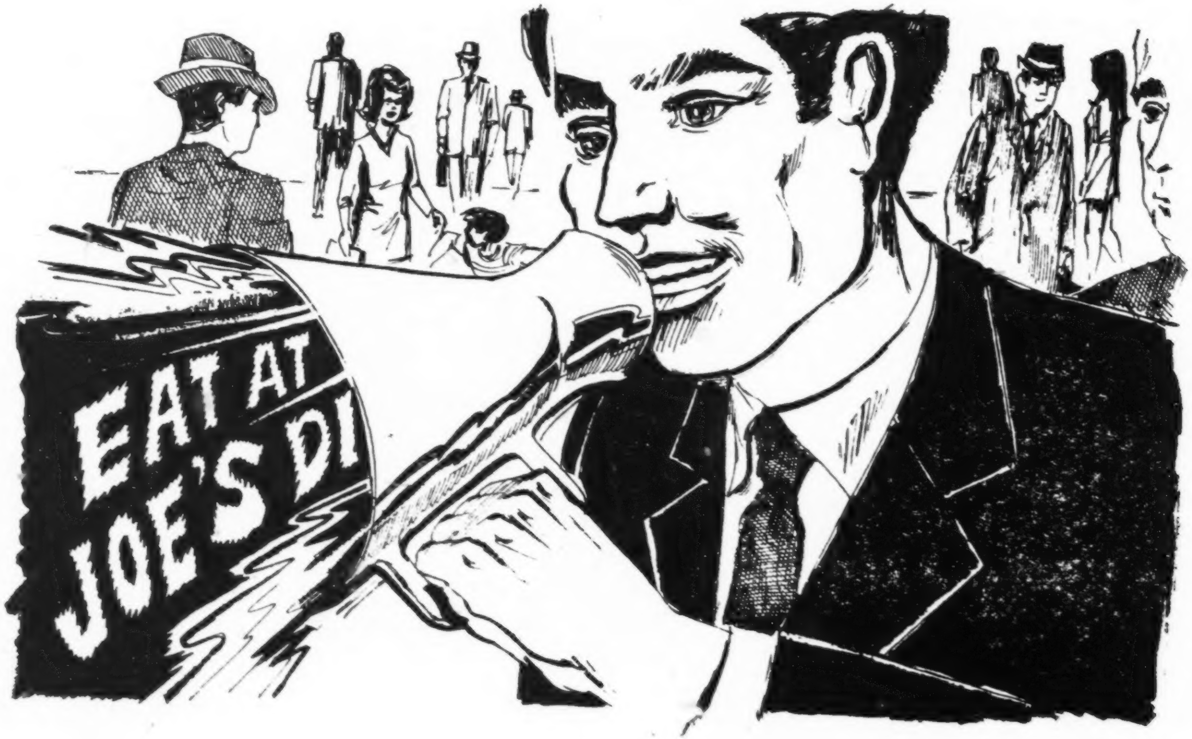
c. Absolute and differential thresholds vary from individual to individual depending on stimulus attributes, the senses involved, method of observation and the individual himself.

d. Absolute thresholds refer to those energy levels which are the same for all individuals. When the thresholds at which stimuli are discriminated vary from one individual to another, they are called differential attributes.

Item 7.


EAT AT JOE'S
DINER

Item 8.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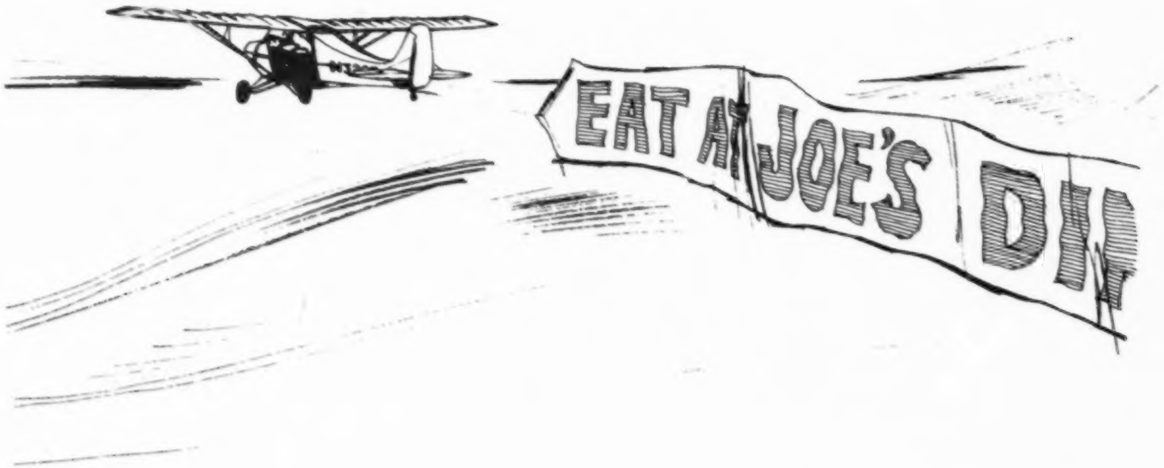
Item 9.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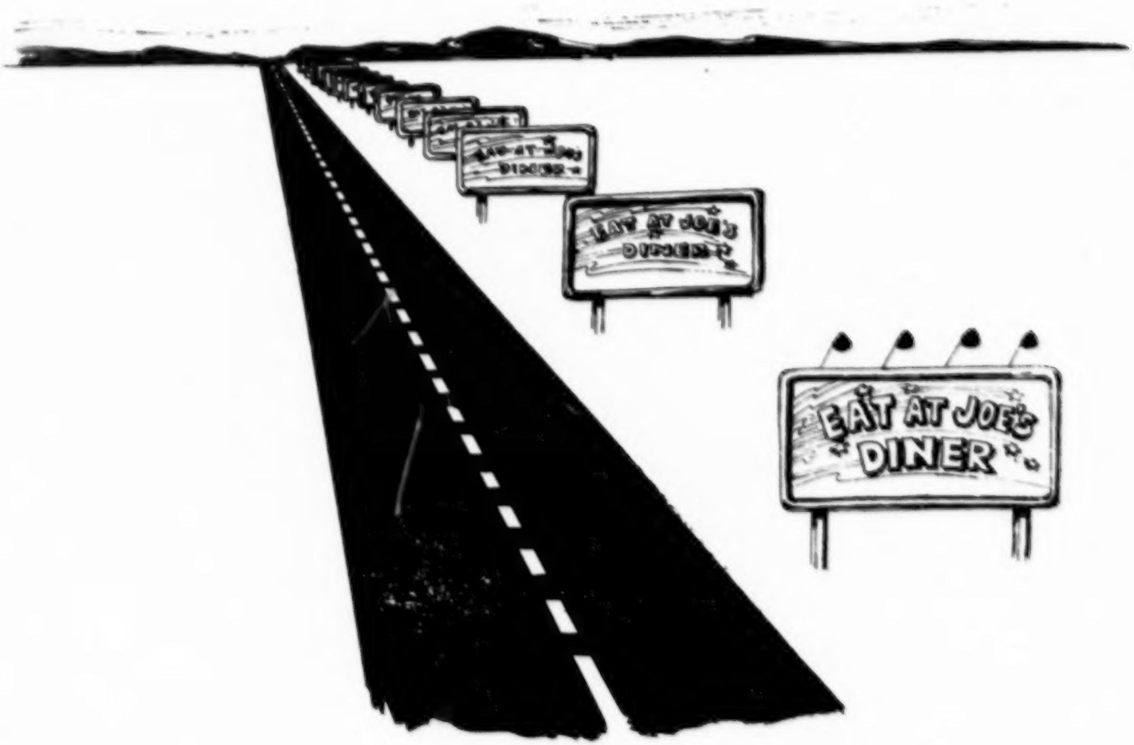
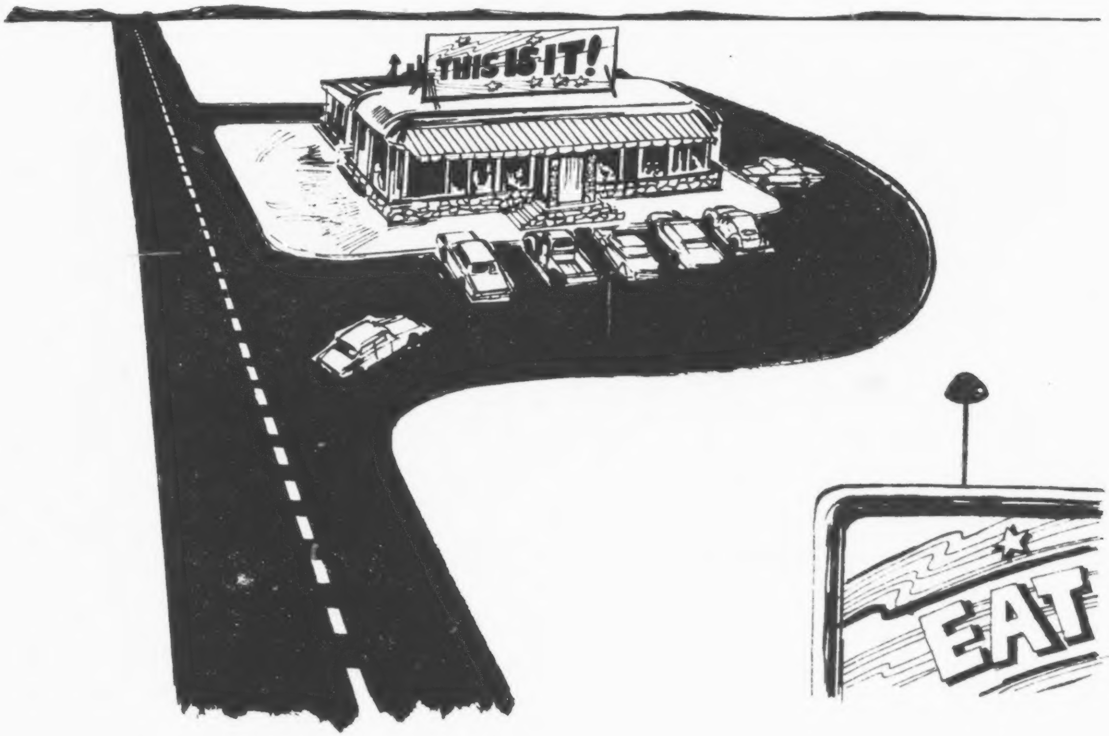
Item 10.


EAT AT JOE'S DINER

Item 11.


THIS IS IT!
EAT

Question 4.

Which of the following are external factors that tend to attract attention?

a. Contrast of stimuli

b. Memory of stimuli

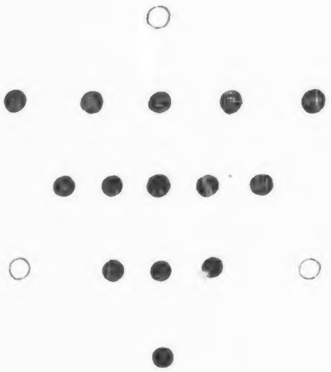
c. Size of stimuli

d. Repetition of stimuli

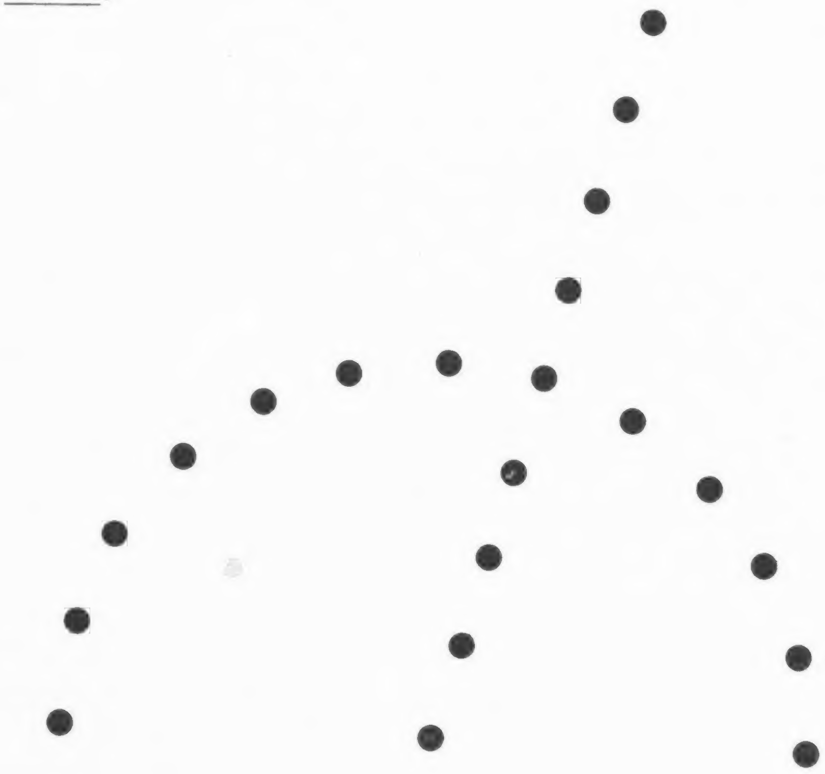
Item 12.

XX XX XX

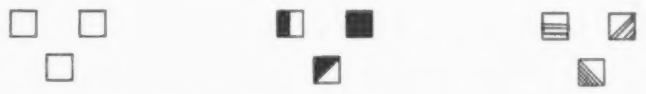
Item 13.



Item 14.



Question 5.



The above illustrates perceptual grouping based on:

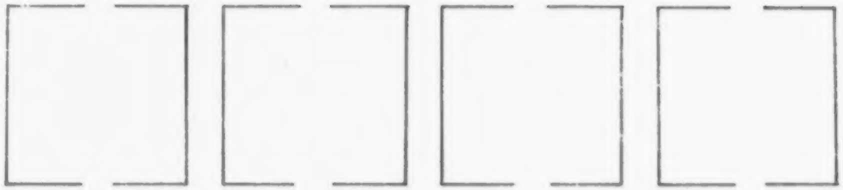
a. Similarity

b. Continuation

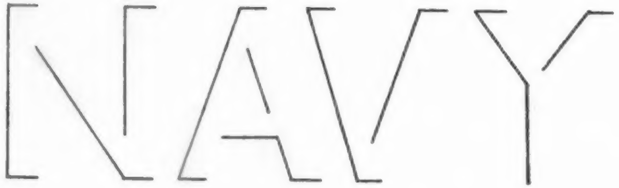
c. Frequency

d. Proximity

Item 15.



Item 16.



Item 17.

Item 18.

Question 6.

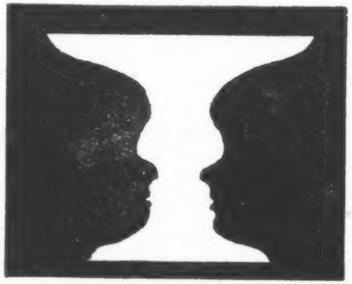
Each of the figures on the right illustrates one of the organizational tendencies in the left column. Match the figures with the tendency.

a. Closure

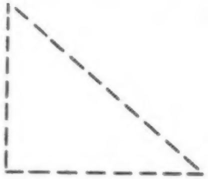
b. Grouping

c. Figure ground perception

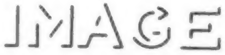
1.



2.

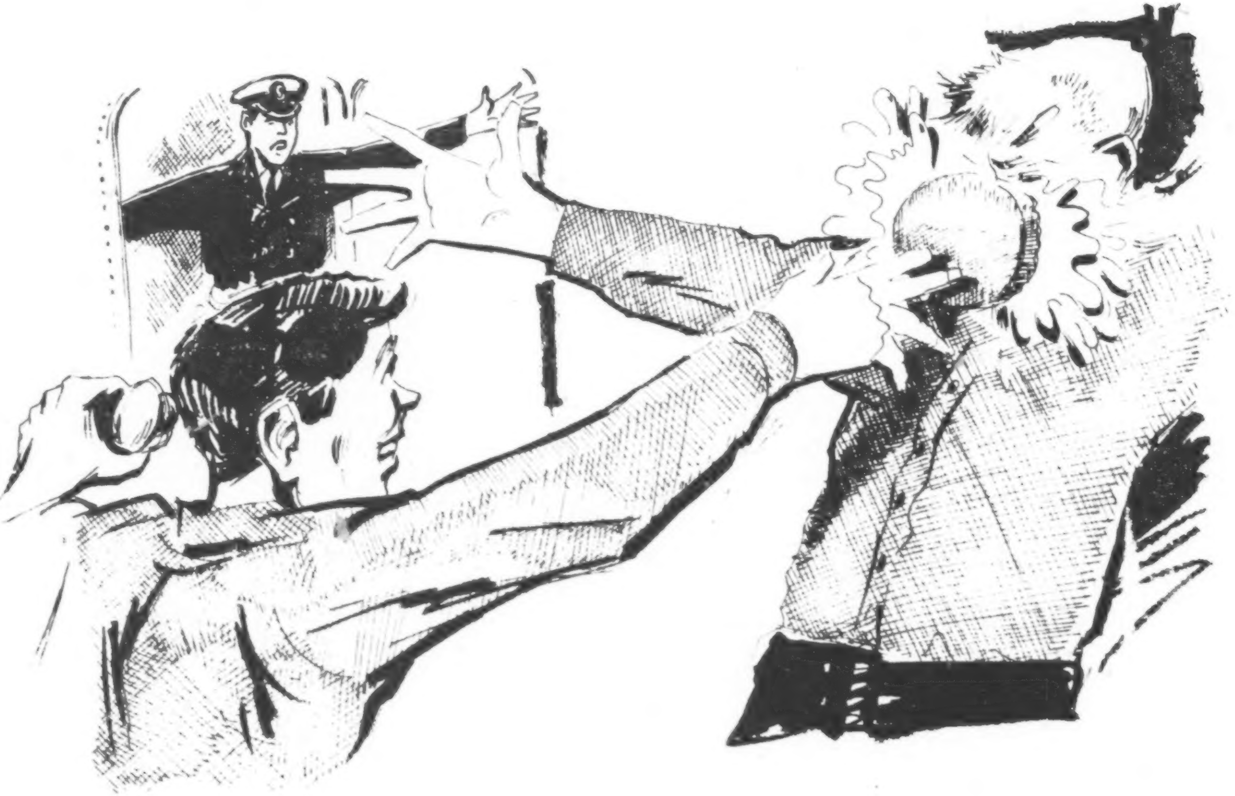


3.

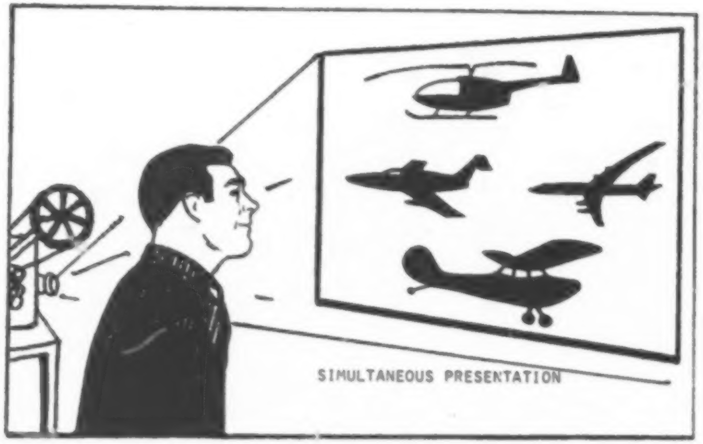


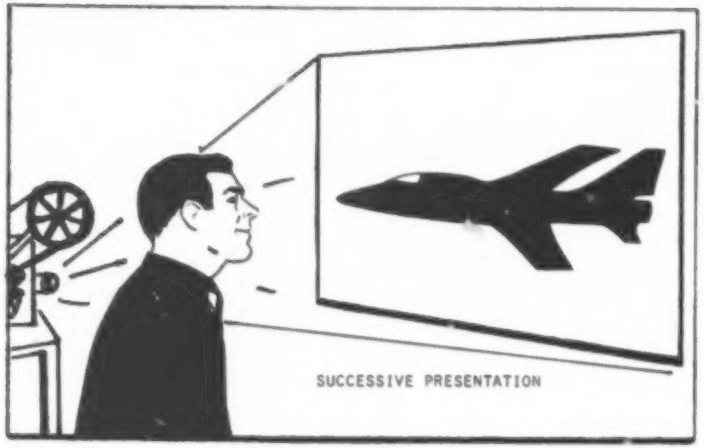
4. X X · · X X · · X X

Item 19.

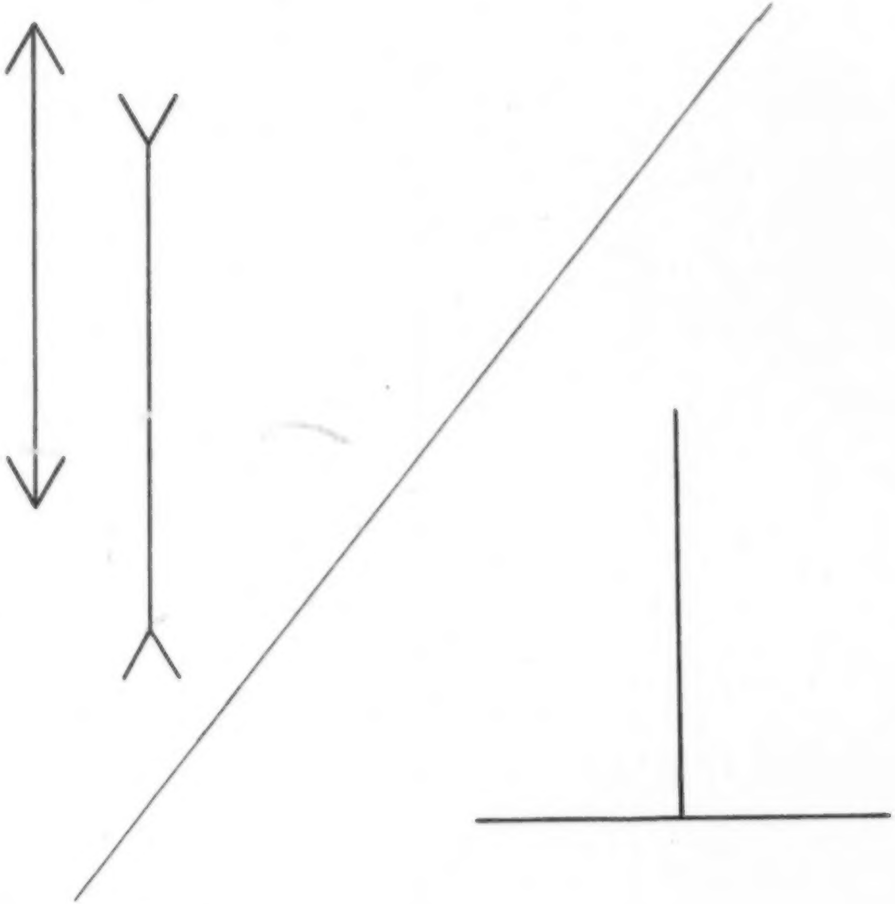


Item 20.


SIMULTANEOUS PRESENTATION


SUCCESSIVE PRESENTATION

Item 21.



Question 7.

Identify the example(s) in which stimulus generalization is the cause of misperception.

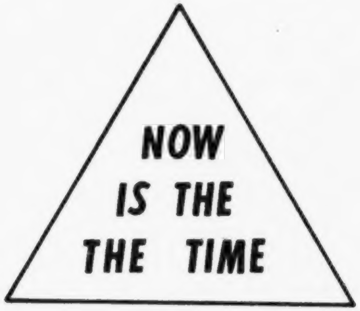
a. A woman who has had her purse stolen by a group of teenage boys feels frightened whenever she sees groups of teenage boys.

b. A motorist driving down the street hit his brakes when a red neon sign lit up.

c. A seaman who has had a series of run-ins with a division officer thinks all junior officers are stubborn and hard to get along with.

d. All of the above

Item 22.


NOW
IS THE
THE TIME

Item 23.

$$\begin{array}{r} 3 \\ 1 \\ \hline 4 \end{array} \qquad \begin{array}{r} 4 \\ 2 \\ \hline 6 \end{array} \qquad \begin{array}{r} 5 \\ 3 \\ \hline \end{array}$$

Question 8.

The new division officer aboard a destroyer, who was formerly a petty officer, has had extensive experience controlling the conduct of his subordinates ashore. He has always found that the threat of punishment and loud reprimands keep the men pretty much in line. In his new position he has found that his assistant division officer often carries out orders with his own interpretations. Threat of punishment merely increases the communication gap between the two officers.

Which of the following (a, b or c) best describes why the division officer misperceived the problem? Which term (1, 2 or 3) describes the cause of the misperception you selected?

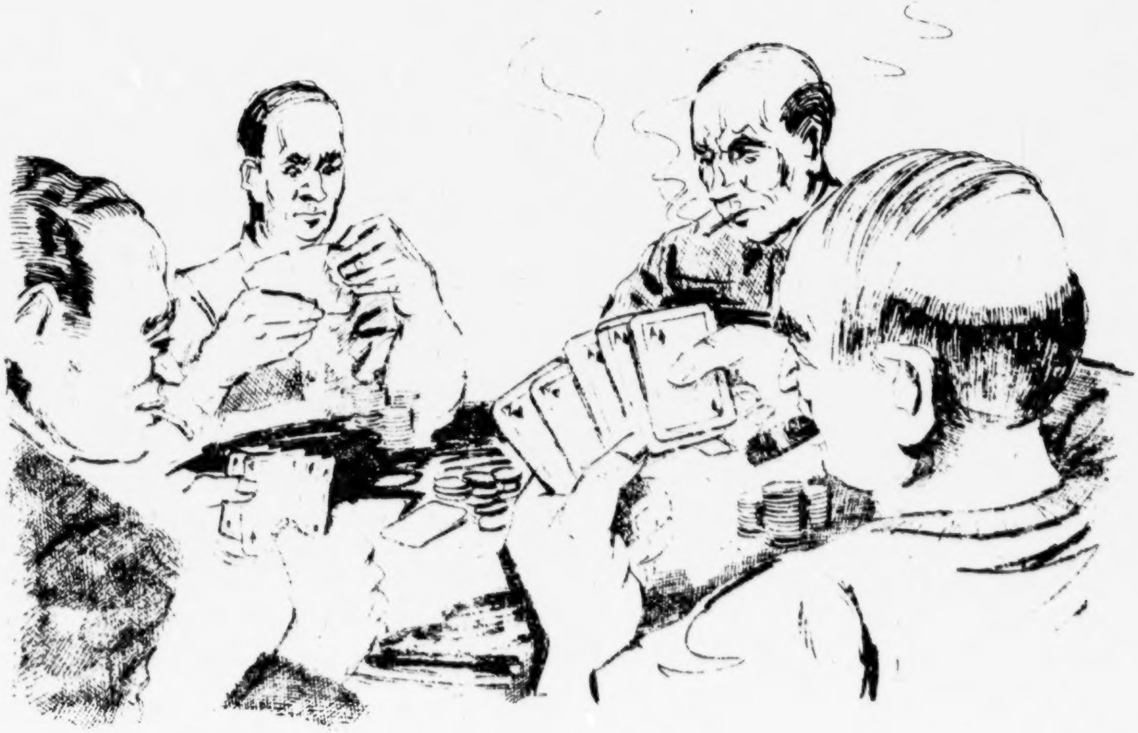
a. The division officer has been conditioned to expect well-trained, intelligent officers under his command. This assistant division officer's failure to meet the standard has him baffled.

b. The division officer is treating the new problem in a manner consistent with ways he found effective in solving old problems without carefully evaluating the new situation. he doesn't realize that the old solutions might no longer apply.

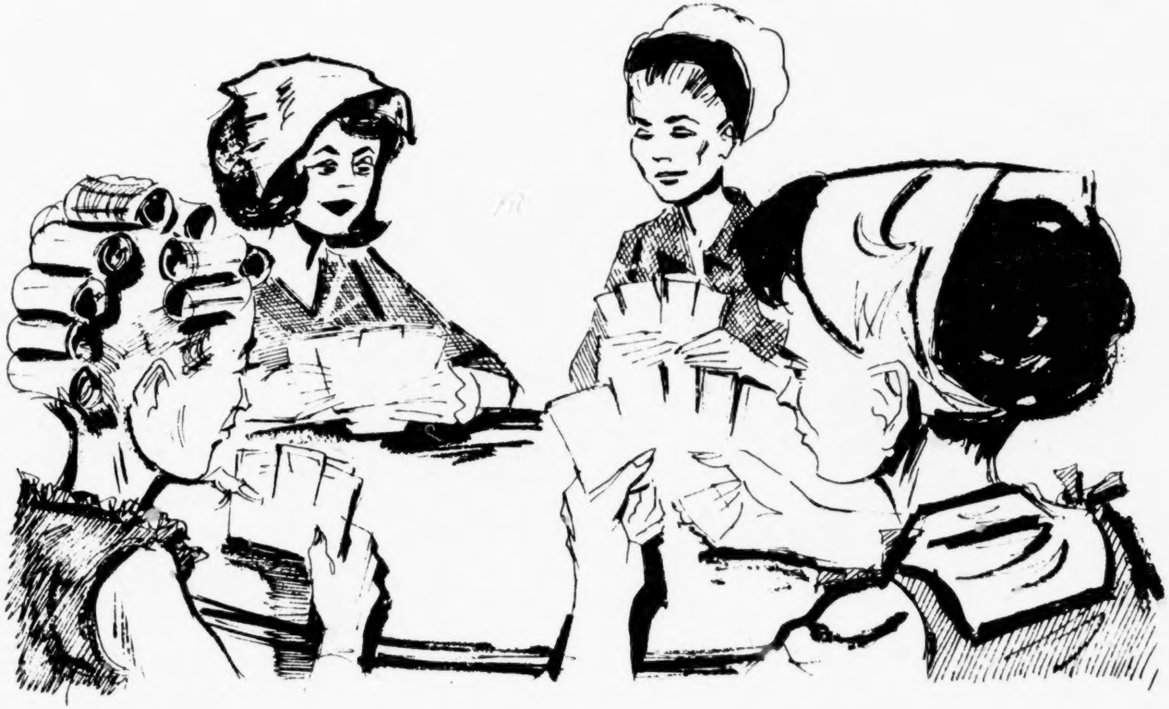
c. The division officer has been assigned an assistant who is obviously not officer material. There is no way for the division officer to act which would solve the problem.

1. Continuation
2. Organization tendency
3. Set responding

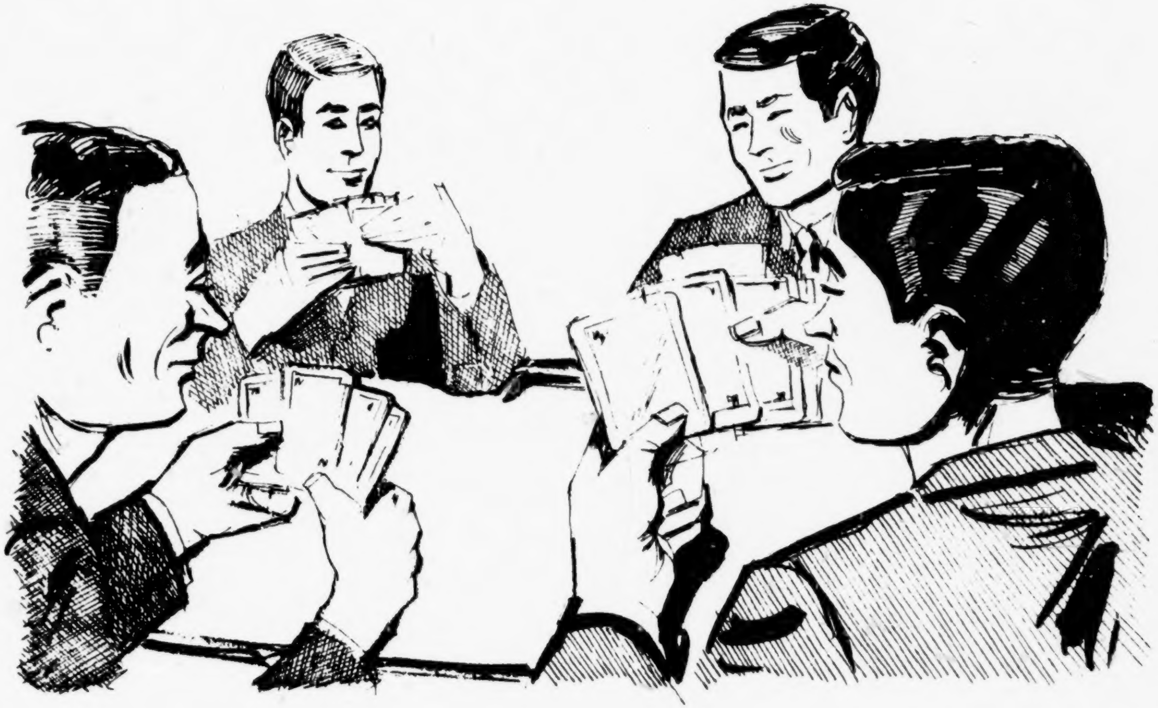
Item 24.



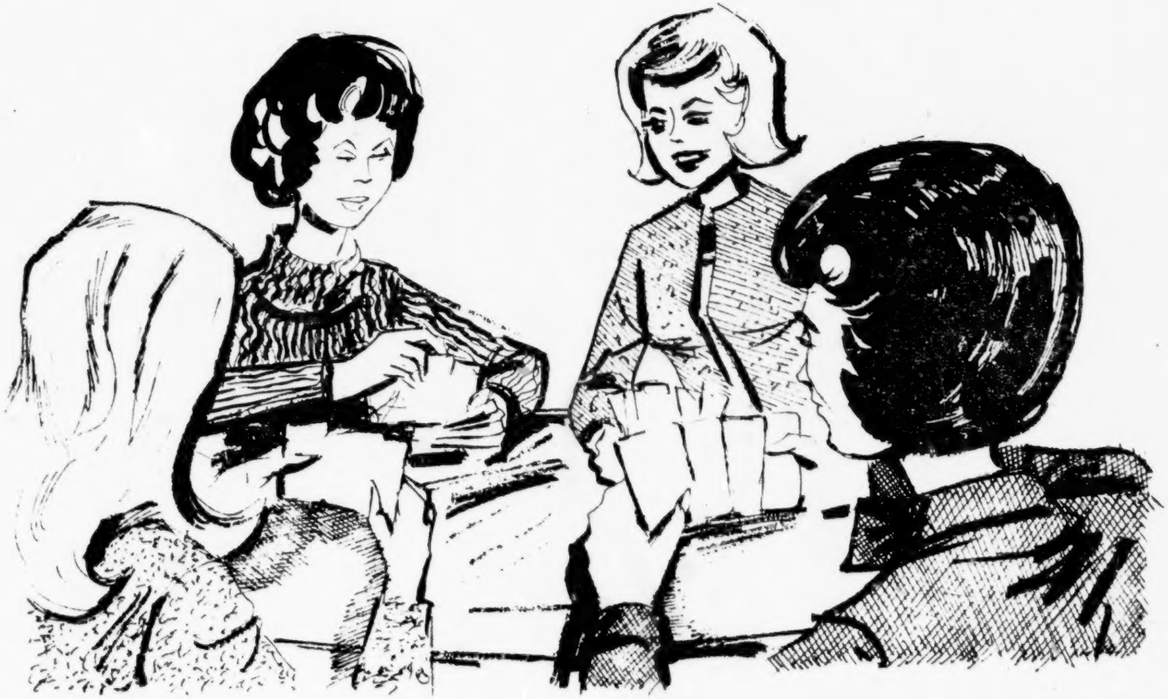
Item 25.



Item 26.



Item 27.



Question 9.

MIDN 1/c Felts, a squad leader, often asks for volunteers for various assignments. He invariably skips over MIDN 3/c Jackson, who is a dedicated poker player. The squad leader makes it apparent that he distrusts Jackson.

Which of the following would you consider to be possible sources of his misperception of MIDN 3/c Jackson?

a. The squad leader was recently put on report.

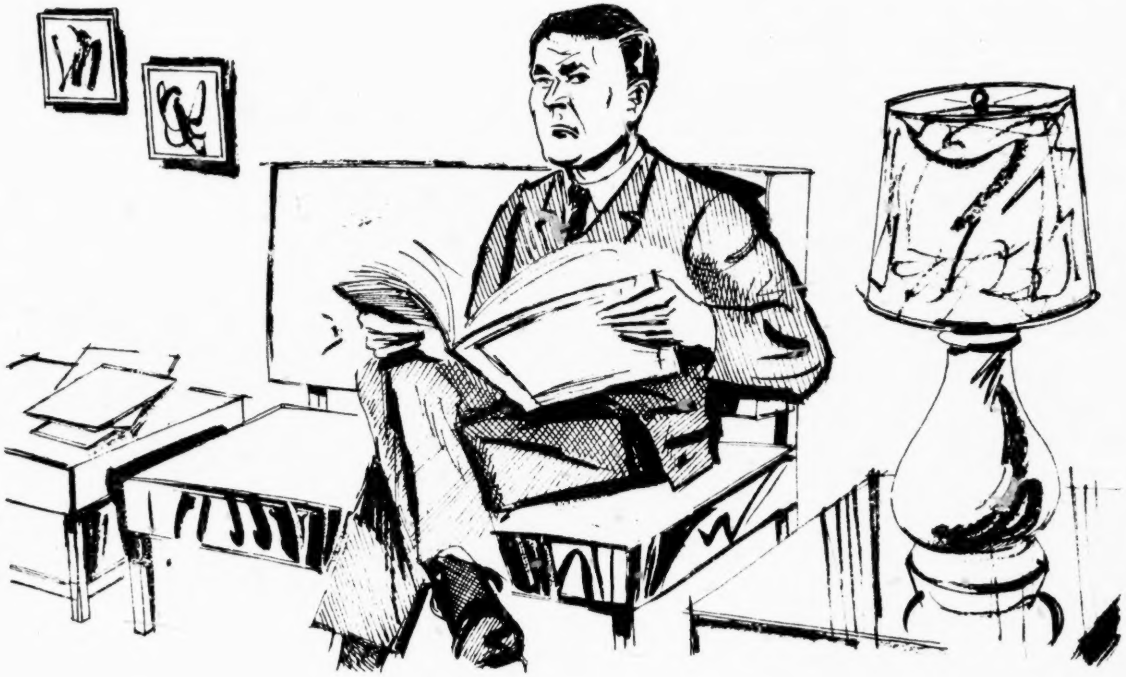
b. The squad leader lost $100 on his first cruise to a card shark and later found that he had been cheated.

c. The squad leader was raised in an orphan's home.

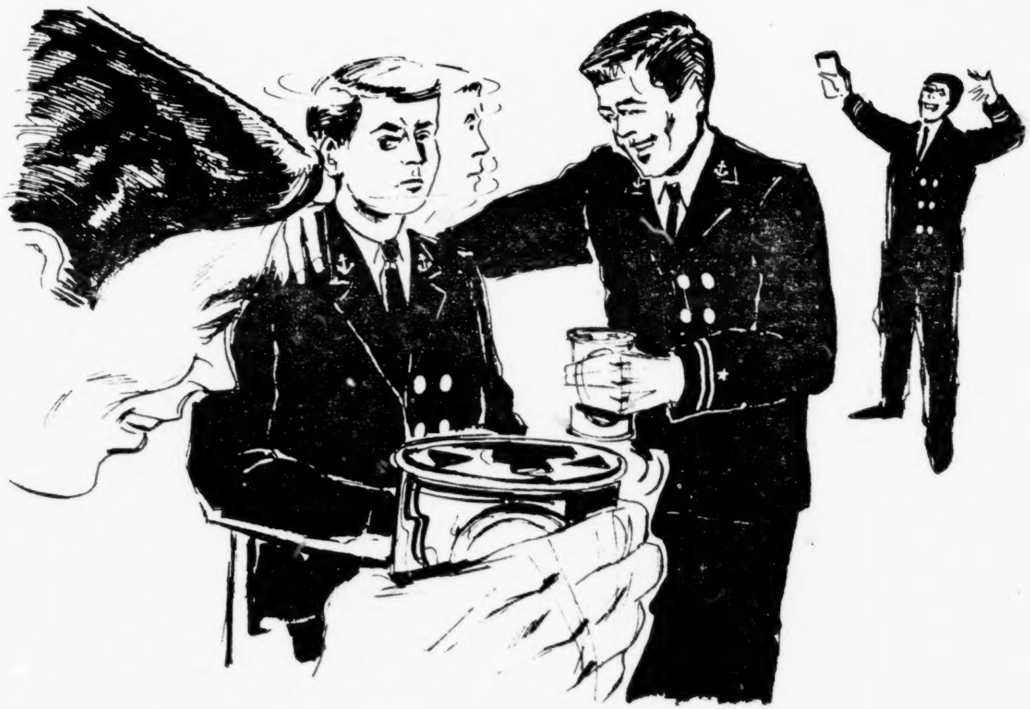
d. The squad leader was taught in childhood that card players were not to be trusted.

e. The squad leader never went to prep school.

Item 28.



Item 29.



Question 10.

LT Townes, a company officer, had earned the reputation within his company and the brigade as a rather super-regulation officer. He was very insistent that all MIDN within his company know and live by those regulations. When LT Townes invited MIDN 1/c Bowser out to his quarters for dinner, Bowser had visions of a very stiff, unpleasant evening ahead, fully expecting to find the same formal and military atmosphere that LT Townes fostered on duty every day. Bowser was surprised to find the cordial, friendly atmosphere that existed in Townes' house. The conversation was pleasant, the dinner was outstanding, and Bowser left the quarters with a new perception of LT Townes.

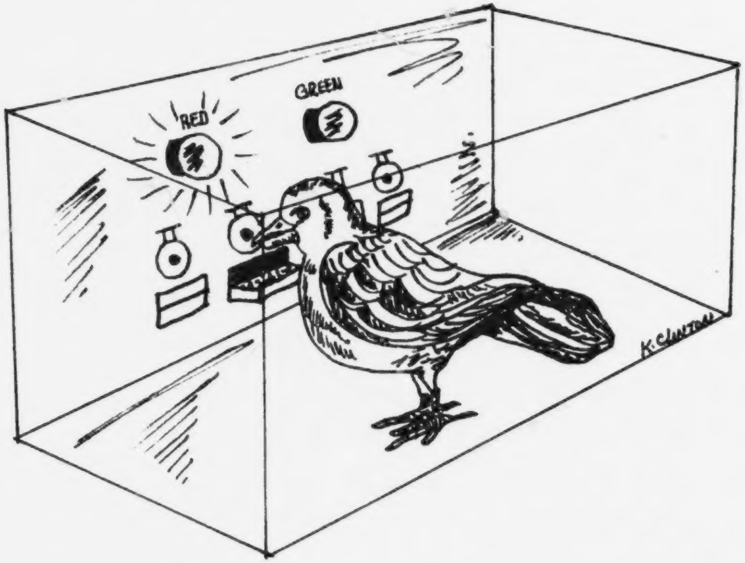
What was the most probable source of MIDN Bowser's misperception of LT Townes prior to the dinner invitation?

a. Set responding

b. Bias

c. Social pressure

Item 30.


RED
GREEN
K. CLINTON

Question 11.

A plebe soon learns that certain upperclass midshipmen are more difficult to deal with than others. As a result he avoids these midshipmen while at the same time he seeks the company of more pleasant ones.

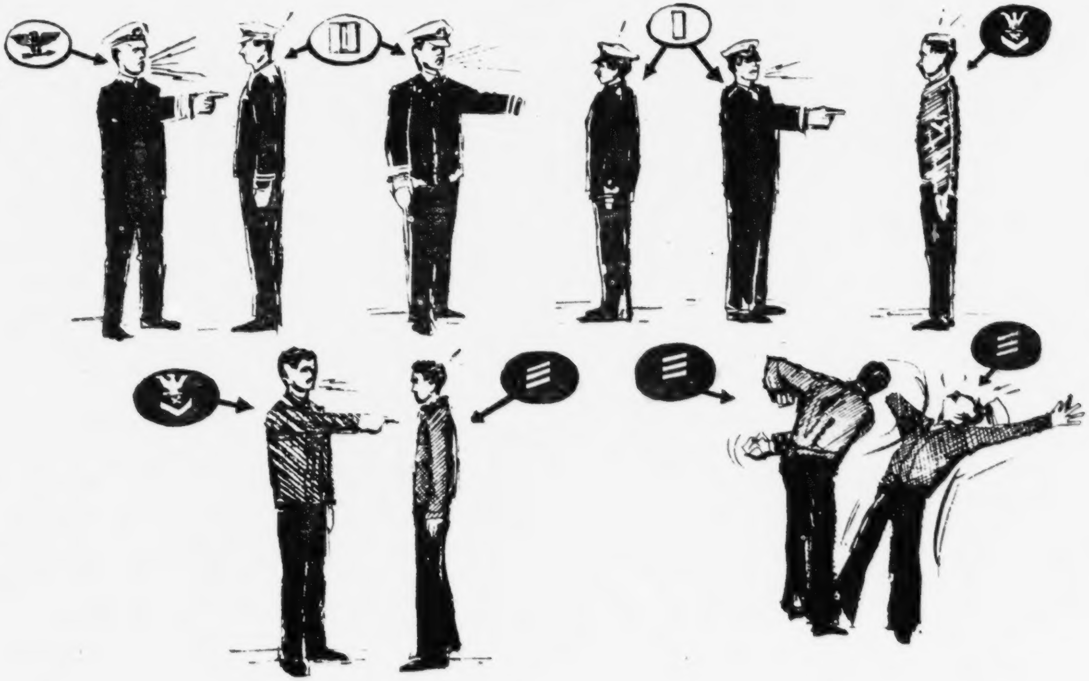
The situation illustrates a social pressure developed by which of the following?

a. Bias

b. Modeling

c. Differential reinforcement

Item 31.



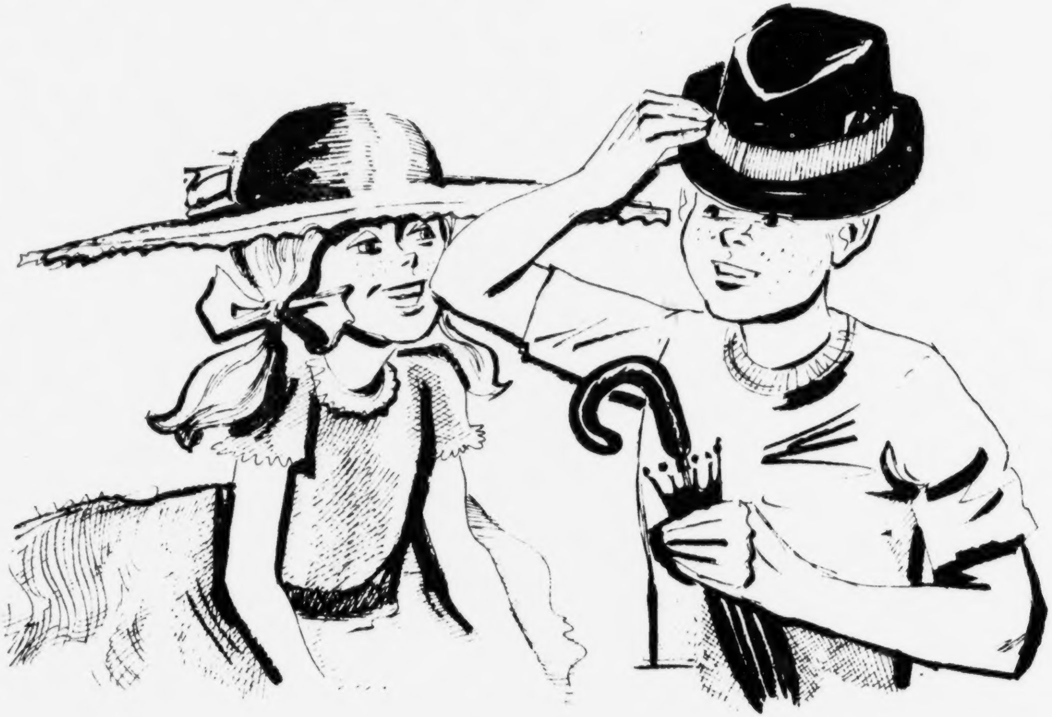
Question 12.

A MIDN squad leader has taken a special interest in a plebe he likes who often falls just below standards. Through repeated urgings he hopes to get the plebe up to Academy standards. The plebe, however, having come from a private school where the headmaster frequently picked on him, misperceives the squad leader's intentions as a manifestation of hostility and avoids him whenever possible and pays only half-hearted attention when evasion is impossible.

Which one of the plebe's internal needs is being satisfied by his reaction to the situation?

a. Anxiety reduction
b. Esteem
c. Self-actualization

Item 32.



Question 13.

Which one of the following best summarizes the effect of modeling on our perceptions?

a. Modeling affects our perceptions only negatively, and it occurs whenever we imitate people who engage in socially disapproved behavior.

b. Modeling can influence our perceptions since we tend to adopt the attitudes and biases of our models.

c. Modeling has no influence on our perceptions since we only model those people who have attitudes with which we are in complete agreement.

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO

INDIVIDUAL BEHAVIOR

Segment V

Attention and Perception

Progress Check

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

ATTENTION AND PERCEPTION

PROGRESS CHECK

Question 1.

SMSN Hughes was a signalman on the USS Canberra. During a training exercise, Hughes was directed to contact the USS Boston. Several smaller escort vessels were in the area during the maneuvers and, unable to distinguish one type of vessel from another, Hughes tried to contact one of the escort vessels by mistake.

Select the appropriate type of remedial training SMSN Hughes evidently needs in the situation above.

a. Stimulus generalization training
b. Signalman training
c. Discrimination training
d. All of the above

Question 2.

Select the correct definition of attention.

a. Any observing perception or orientational response in which the individual distinguishes a variety of stimuli within his absolute and differential thresholds

b. Any response which the individual has permanently resolved to keep foremost in his conscious thought patterns

c. Any perception or response which the individual compulsively interprets on the basis of his sensory perception

d. Any response in which the individual selects or distinguishes a specific stimulus from the general stimulus complex presented by our environment at any given time

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Question 3.

If one extends his hand above his head and looks at it with the fingers spread out and against the background of the ceiling, one could describe this perception as which of the following relationships?

a. Figure-ground

b. Grouping

c. Closure

d. Contour

Question 4.

Select the phrase which identifies the cause of the misperception in the following example.

Marine LT Jacobs had recently completed a 13-month tour in Vietnam. During this time, his unit was subjected to repeated mortar attacks. LT Jacobs' first reaction was to throw himself to the ground.

While walking behind the end zone at the Army-Navy game, Navy scored a touchdown. As usual, a cannon was discharged immediately thereafter. LT Jacobs threw himself to the ground.

a. Stimulus immobilization
b. Recognition confusion
c. Stimulus generalization
d. Stimulus disassociation

Question 5.

SM3 Howard was asked to study the basic silhouette of a particular type of enemy destroyer and was given a verbal description of its distinguishing features. After a few moments study he was shown several photos of destroyers, one at a time, and asked to identify the original destroyer when it appeared.

Which method of discrimination training is described above?

a. Successive presentation
b. Random presentation
c. Simultaneous presentation
d. Group presentation

Question 6.

LT Rosenberg informed ENS Barett that secret orders had just been received for the ship's immediate departure for the South China Sea, and ordered him to load ship's supplies as quickly as possible. ENS Barett began the loading task but did not encourage speedy completion since he did not want to have to explain "why" to the crew. Further, ENS Barett had been fooled once before by LT Rosenberg, who had used the "secret departure orders" ploy to urge completion of a loading task earlier than necessary.

The ship did have secret departure orders and confusion reigned during the final hours to complete the loading of stores.

ENS Barett obviously misperceived the situation and failed to respond properly. Select the reason for his misperception.

a. Denial of source credibility

b. Attitude preservation by selective interpretation

c. Desire to reduce anxiety

d. Reinforced prejudice

Question 7.

From the following examples of misperception, select the identifying phrases which correspond to the order of the examples.

1) LT Ignatus believed that the southerners in his unit would not perform to the best of their ability because all his CPOs were New Yorkers.

2) ENS Woodruff thought that card playing was morally degrading to the young sailors in his unit yet he approved of his wife playing bridge once a week.

3) LTJG Braen told his men that nothing was more important than achieving better results on their monthly inspection. He had told them that each month; yet, when the unit continually failed to achieve better results, he failed to take corrective action.

a. 1) Identity with the group; 2) stereotyping and prejudice; 3) denial of source credibility

b. 1) Selective interpretation; 2) stereotyping and prejudice; 3) identity with the group

c. 1) Stereotyping and prejudice; 2) selective interpretation; 3) denial of source credibility

d. 1) Stereotyping and prejudice; 2) denial of source credibility; 3) selective interpretation

Question 8.

Select the paragraph which describes the nature of social pressures.

a. Social pressures develop from society's ability to adopt necessary changes by evolution. Anyone who advocates more rapid change is generally ignored by the rest of society.

b. Social pressures result from the individual's inability to create original thoughts or values. Society prevents individual deviations from established norms.

c. Social pressure is the differential reinforcement by families, schools, peer groups and others, which prompts individuals to respond in a certain way. Socially approved role models assist in defining acceptable behavior.

d. Social pressures develop from the consensus of the elite that all established norms should be rigorously adhered to by its members. Deviation is usually easily recognized; thus forces are quickly mobilized against it.

Question 9.

BM3 Solowolski was the only member of his cultural background in his boat crew. BMSN Nevitts openly expressed his resentment of Solowolski and frequently made bigoted remarks about him to the other members of the boat crew in Solowolski's absence. When Solowolski gave Nevitts an order with the rest of the crew, Nevitts was visibly very bored and complained a great deal. Often, Nevitts tried to convince the rest of the crew that he was being singled out by Solowolski for extra duty.

From the following choices, select the apparent cause for BMSN Nevitt's perception of his relationship with BM3 Solowolski.

a. Denial of source credibility
b. Anxiety reaction
c. Maintenance of group identity
d. Stereotyping and prejudice

PROGRESS CHECK ANSWER AND REMEDIATION FORM

PART Two SEGMENT V

REMEDIATION TEXT Audio Script, VOL-II-A

ITEM	ANSWER	REMEDIATION REFERENCE
1	c	Pages 1-3, 13-15
2	d	Pages 1-3, 7
3	a	Pages 10-11
4	c	Page 16
5	a	Pages 13-15
6	a	Pages 21-22
7	c	Pages 15, 19-21, 25
8	c	Pages 22-23, 26-27
9	d	Pages 19-21, 24-25
10	☐	
11	☐	
12	☐	
13	☐	
14	☐	
15	☐	

United States Naval Academy

INTRODUCTION TO PSYCHOLOGY AND LEADERSHIP

PART TWO
INDIVIDUAL BEHAVIOR

Segment V
Attention and Perception

Audio Script
(LATS)

WESTINGHOUSE LEARNING CORPORATION
Annapolis, Maryland
1971

ATTENTION AND PERCEPTION

In this segment we shall discuss two of the most interesting and complex aspects of human behavior--those of attention and perception. In an earlier lesson we discussed adjustive behavior. We defined this as making a response to an environmental stimulus the result of which can then affect future responses to that stimulus. (Pause)

Now look at Item 1.

We used a traffic light as an example of the stimulus-response relationship. When we perceive a red light, we respond by stepping on the brake to stop the car. We respond to the stimulus of a green light by stepping on the gas. These responses, however, are not automatic. It is quite possible for a person to see a red light and not hit the brake, or to see a green light and not accelerate. All stimuli must be brought into the nervous system to be sorted out and evaluated before the correct response can take place. This is where attention and perception come in.

Now look at Item 2.

The kind of response that might take place, and the fact that any response at all occurs, is dependent upon two important psychological factors, attention and perception. Attention is the selection from a great number of potential stimuli, only those stimuli which are related to present needs or interests.

Perception is, on the other hand, the discrimination and interpretation of stimuli, that is, determining relationships among them.

Now look at Item 3.

A vast number of perceivable stimuli is present in any environment. All of them fall within the energy ranges and thresholds to which our receptors can respond--yet we are hardly aware of the majority of them. The midshipman in the center of the picture is being bombarded with a variety of stimuli. There are noises. There are undoubtedly other stimuli which would be difficult to portray in a drawing--the odor of newly mown grass, for example. Yet, from all these stimuli, the midshipman is visibly responding to only one, the printed page before him. This illustration shows clearly how we respond to only a selected portion of all the stimuli which we are capable of perceiving at any time. This process of psychological selectivity is called attention. Now let's discuss some of the innate factors in the human organism which affect attention. (Pause)

The first and limiting step in attention and perception is the detection of and the discrimination among the variety of stimuli that are constantly present in the environment. This process, known as sensory discrimination, is performed by the sensory mechanisms of our bodies. Basically, stimuli represent environmental energy changes. Each of us is equipped with specialized cells, capable of responding in various ways to certain of these changes. These cells are called receptors--they comprise the sense organs of our bodies. Our eyes are the receptors for electromagnetic energy in the form of light. Our ears and taste buds respond to chemical energy--these give us the senses of smell and taste. Our sense of touch, is generated by several different kinds of receptors--those which respond to mechanical energy, motion, weight, pressure, those which respond to thermal energy (warmth and cold) and, finally, those which respond to pain. Each receptor, then, responds to a particular kind of physical energy in the environment. (Pause)

Now look at Item 4.

Each receptor has a certain range of sensitivity. This is illustrated in Item 4. The man in the foreground is blowing a high-pitched dog whistle. The dog hears the whistle and responds. The man watching the dog does not hear the whistle --its sound is in a frequency range which he is incapable of hearing.

Ultra-sonic sound is only one example of an energy value which human receptors are incapable of discerning. By the same token, we do not see X-rays and we do not smell pure air, despite the fact that they represent measurable elements of energy in the environment. And even when an energy change is within the range to which our receptors are sensitive, we still have no guarantee that we will perceive it. The naked eye cannot see the moons of Jupiter, yet their light does reach the earth--as you can perceive if you use a telescope. In fact, all of our receptors or senses require some minimal level of energy before they are activated--or, to use more technical terms, some minimum absolute intensity of energy to which each will respond. (Pause)

Now look at Item 5.

This minimum level is called the absolute threshold. In each of the senses, this threshold varies with the individual. Item 5 shows an extreme example of this variance. The individual with normal hearing has to suffer through the cap-gun barrage. The other person can simply turn off his hearing aid, and he will not hear it at all.

Now look at Item 6.

We sometimes fail to perceive stimuli even when they do fall within both the ranges and the intensities detectable by our receptors.

This can happen when our receptors encounter a situation in which they cannot discriminate one stimulus from another similar one. Here a man is shining a flashlight on a bright, sunny day. The flashlight is giving off just as much light as it would at night. And if it were night time, the man would have no trouble seeing the beam. But he does not see it now, because there is not enough difference in intensity between the two light sources, flashlight beam and daylight. The degree of difference necessary for an individual to discriminate between two such stimuli is called the differential threshold. Those various aspects of a stimulus which can differ in intensity and thus, affect our perception of it, are called its attributes. For example, the attributes of a sound are its pitch and its loudness--those of a beam of light are its color, intensity and configuration. (Pause)

Now let's turn to some other factors which can have a significant effect on attention--to illustrate each factor we shall use an example from the advertising industry. Certain things attract our attention. There are five characteristics of communications which are most effective in attracting attention: size, intensity, motion, repetition and contrast. (Pause)

Now look at Item 7.

The first attention--getter is size--the larger the billboard, the more likely we are to notice its message. (Pause)

Now look at Item 8.

A second factor is intensity--the louder the sound, the stronger the taste or odor, the more attention we pay to it. (Pause)

Now look at Item 9.

Motion and repetitive stimuli both attract the attention more than do stable stimuli. (Pause)

Now look at Item 10.

This helps explain the attraction of blinking signs, animated displays, and constantly repeated advertising slogans. (Pause)

Now look at Item 11.

The fifth factor, contrast, is a marked difference in stimulation. An example from shipboard life is engine sound. A man whose living quarters are within the sound of the engine, who has come to accept the noise as a natural, normal part of his environment, will cease to notice it. If the engines were to stop, however, he will notice this at once, because of the contrast.

At this point, it is the silence--or absence of sound--that becomes the stimulus. Size, intensity, motion, repetition and contrast are quite effective external factors for attracting attention. Internal factors which can influence attention are the individual's interests, motives, state of mind, and so forth. As an example, suppose that two midshipmen visit the Marine Corps Development and Education Center at Quantico, Virginia. One midshipman is going into the Marine Corps and one is going into the Navy Nuclear Power program after graduation. It is likely that each of them will attend to quite different stimuli presented by the same environment. (Pause)

To sum up what we have discussed so far. We have seen that not all stimuli which are capable of being perceived are in fact perceived. At any one time, we selectively are aware of only a few of the available stimuli. This process of selection is called attention. It takes place in the mind and nervous system rather than in the receptors themselves. Now let's discuss some of the ways in which we order our perceptions in our minds. The first thing we should be aware of is that we tend to order our perceptions according to whole objects rather than individual characteristics. Assume that you picked up a baseball and are looking at it. Your receptors make you aware of color and roundness and hardness and a certain weight. However, you do not perceive these characteristics individually. What you perceive is a baseball. Or, take another example: You stand in the surf and are hit by a large wave. You are aware of wetness, temperature, weight, impact and saltiness, but what you perceive is a large wave. Psychologists have discovered that there are certain characteristic patterns of perception and attention by which we organize stimuli into patterns or objects. These are the organizational tendencies the first of which is grouping. (Pause)

Now look at Item 12.

What do you see? (Pause 3 sec)

The reaction of some of you may have been to say to yourselves, "Six X's." It's likely that the majority of you, however, said, "Three pairs of X's." What this illustrates is an organizational tendency called grouping. If at all possible, we tend to perceive collections of several stimuli as being grouped into one or several patterns. Three characteristics of stimuli reinforce our tendency to organize stimuli into groups: proximity, similarity and continuation. In the case of the X's, the factor that leads us to group the stimuli into pairs is proximity--the nearness of the components of the pairs. We tend to perceive stimuli which are close together as belonging together. The fact that pairs of X's are shown here is unimportant. We might just as well have used mixed groups of X's, dots, dashes, and so forth, so long as the components of each pair or trio are close together, and each pair or trio is adequately spaced from other pairs or trios, Proximity of the parts establishes the groups. (Pause)

Now look at Item 13.

A second organizational tendency is similarity. Looking closely, you can see here that the dots form a six-pointed star, or hexagon. However, at first most observers will not see a hexagon. Because the three white dots are dissimilar from the black dots, we instead tend to see a triangle of black dots with the white dots forming their own triangle pattern overlapping it. Thus, similarity affects our tendency to group stimuli. Although all of the dots are close together, it is not proximity here, but similarity which acts as a main factor in grouping. Similar dots, the black ones, appear to form one group, whereas other similar dots, the white ones, appear to form another group. (Pause)

Now look at Item 14.

A third factor in grouping is continuation. We tend to see this set of dots as two separate continuous lines, one curved and one straight, even though they intersect and share a common dot at their intersection. As you see, each of the factors, proximity, similarity and continuation, plays a part in the organizational tendency called grouping. (Pause)

Now look at Item 15.

Now let's discuss a second organizational tendency--closure. What was the first impression of what you saw? In all probability, four squares. You may have been also aware from the start that the squares had something missing from them, and on further observation you may describe them as "four squares with chunks taken out of them." But the significant thing is that you still see them as squares, not simply as sets of unclosed line figures. This illustrates the second organizational tendency called closure. This is a tendency to fill in gaps in multiple stimuli, so that the stimuli are perceived as a whole object rather than as disjointed parts. (Pause)

Now look at Item 16.

Here is another example of closure. We see the word "NAVY" written in block letters although the blocks do not in fact really exist. This demonstrates the way in which our perception can supply nonexistent stimulus elements in order to present a meaningful whole. (Pause)

Now look at Item 17.

We go now to a third organizational tendency--figure-ground perception. None of us should have much trouble perceiving the letter "N" here. This is typical of most of our visual perceptions--we tend to pick out a specific figure, such as the "N," and see it against an extended, relatively formless background. (Pause)

Now look at Item 18.

What do you see here? Is it grey or white? Perhaps some of you saw a white vase against a grey ground. (Pause 3 sec)

Others, however, may have seen two profiles, grey figures, against a white ground. (Pause 3 sec)

This is a classic example of what is known as a reversible figure-ground relationship. (Pause)

Let's consider now, how what we have discussed about attention and perception applies to your leadership duties. Although you may not be aware of it, paying attention to, or attending to various aspects of a given situation is a skill learned throughout life. Of course, not everyone has developed this "attending" skill to the same degree. Consider the leader in the situation in Item 19.

Now look at Item 19.

This young officer finds that there is a serious morale problem among his men. Typical is this mess hall incident, in which he finds the men pelting each other with chunks of food. Following each incident, he places the men involved on report. The situation, however, continues to get worse. The officer tells his Commanding Officer that his men are simply incorrigible and that nothing he can do seems to control them. When asked whether he has talked with the men in an effort to find possible underlying causes of trouble, he replies, "Yes, but you can't get anything out of them. All they do is gripe--gripe about this, gripe about that, gripe about the food--just a bunch of chronic bitchers." The problem in this case actually is bad chow, which is often a major cause of poor morale. The officer's failure to pay attention to the men's gripes and to check them out, causes his incorrect judgment of the situation. He has failed to attend to the critical elements of the problem and is thus having difficulty solving it. As long as he misperceives the situation, it is unlikely that he will be able to control it. As you see, in order to solve a problem, it is necessary to attend to the correct elements of the problem. When a leader is faced with the responsibility for training men under his command, he must provide exercises which train them to attend to the relevant factors of a situation. They must learn to sort out and remove the irrelevant stimulus factors, which may appear at first to be the primary factors.

Now look at Item 20.

Training men to choose between relevant and irrelevant stimuli is known as discrimination training--a technique commonly used to train men in a wide variety of skills. Sky and surface lookouts are trained to make fine discriminations, as are sonarmen and radarmen. Basically discrimination training is accomplished by use of two methods: simultaneous presentation and successive presentation. (Pause)

Let's use aircraft recognition training as an example to explain the two methods. During training by simultaneous presentation a student might be shown a picture of four aircraft, a fighter, a bomber, a spotter and a helicopter. He must select the fighter from the group. Additional information concerning a specific type of fighter would then be provided--say, a fighter with a peculiarly shaped tail structure. Now the student is shown a picture of four fighter types with differing tail shapes and he must choose the one fighter specified. On each succeeding presentation the other aircraft in the picture become more and more similar to the specified aircraft. The procedure is repeated for each type of aircraft that the student must be able to recognize. Eventually, the student can very quickly and accurately choose a specific aircraft from a group. Notice that training began with a very easy discrimination and progressed to very difficult discriminations among very similar aircraft. During training by successive presentation, the student is still progressed from easy to difficult discriminations; however, only one stimulus (in this case, a picture of an aircraft) is shown at a time. The student must decide whether or not that stimulus is the one that has been described for him. As training progresses, you might stipulate that only fighter aircraft with a specific tail shape and a distinctive radome on the nose is the correct choice. Now, when shown a series of pictures of various fighter types, one after the other, the student will state: "Yes, that is the correct fighter type," or "No, that is not the correct fighter type." As always, the student's training progresses from gross discriminations which are easily made to very fine and difficult discriminations. By means of discrimination training a person is actually taught to attend to minute details. (Pause 3 sec)

Psychologists use the term perception to describe the "sorting" functions of organization. Perception is that process by which we discriminate among the various stimuli. Perception adds meaning to the stimuli we experience. Perception is, in short, the process of discriminating among stimuli and interpreting their meanings. We will use some examples from the fascinating area of optical illusions to illustrate how perception operates. (Pause)

Now look at Item 21.

Which line segment on the upper left appears longer to you? (Pause 2 sec)

If your faculties of perception are normal, you probably found that the line on the right looked longer. You may have guessed, however, that they are actually the same length--which in fact they are. The direction of the arrowheads tends to optically shorten the line on the left and elongate the one on the right. Now try to determine which of the lines on the lower right is the longer. (Pause 4 sec)

Now measure them with your pencil or with a piece of paper. (Pause 6 sec)

It might have surprised you to find that the vertical line--instead of being longer, as it appears--is really the same length as the horizontal line. What both these figures illustrate is, of course, optical--or visual--illusion. Illusions are simply false perceptions that produce distortions of what actually exists in the environment. They provide an excellent illustration of the interpretive nature of perception. We perceive things not necessarily as they are but as we interpret them. (Pause)

A number of factors within ourselves influence our interpretation of the objects and situations that we perceive. For instance, we tend to make what is called a stimulus generalization, based on our past experiences. Stimulus generalization is the tendency to make a conditioned response to an unfamiliar stimulus which is similar to--but not the same as--the stimulus to which we have been conditioned. Suppose you are on the bridge of a ship at night and you see a pair of running lights dead ahead. Rather than being green and red, however, suppose these lights are blue and orange. The chances are that you would probably respond to these unfamiliar stimuli by associating the cooler color, that is, blue with green, and the warmer colors, that is, orange with red. Thus, you would tend to see blue as starboard and orange as port, making a stimulus generalization. As a result of the generalization, you would respond in the same way that you would respond to standard running lights. As you can see, the stimulus is not the same--we have a blue light instead of a green and an orange light instead of a red--but their similarity leads you to respond as you would for the more common stimuli of red and green running lights. A person who has had a troublesome and unhappy experience with a door-to-door salesman may generalize on that experience and respond negatively to any stimulus that appears to resemble a door-to-door salesman. (Pause)

Besides stimulus generalization, a second factor influencing our interpretation of things we perceive is familiarity. Objects we see or handle frequently may actually be changing very gradually over a long period of time, and yet, we fail to note these subtle changes. Therefore, we perceive and respond as though no change had occurred. Consider the classic case of the young man who treats the girl next door as a pal, only to discover one day that she is no longer the little girl next door, but an attractive young woman. (Pause)

Now look at Item 22.

A third factor influencing perception is the so-called set response. What do the words in the triangle say? "Now is the time?" Read them again, slowly and word by word. (Pause 3 sec)

It is plain now that what they actually say is "Now is the the time." This misperception which many of you probably made is an example of set responding. The word "set" in this case is used in the sense of a predisposition to fix something into a pattern. We have all been conditioned over a period of years to read the English language in the context of meaningful words and sentences. Thus, we tend therefore to subconsciously correct minor deviations from this context, removing redundant elements and supplying missing ones. The difficulty a person has in discovering typographical errors after he has written something is another example of set responding.

Now look at Item 23.

Do the 3rd problem in your head.

Was your answer to the problem "8"? If so, how did you arrive at it? You probably added, though there is no clear indication that you were to add the two numbers. You could just as easily have subtracted them, and gotten "2," or multiplied them, and arrived at "15." What happened, of course, was that the first two problems provided a pattern from which you generalized a stimulus, providing an instruction to add, where none, in fact, existed. Thus, you made a set response and added the two numbers. This illustrates one of the advantages of set responding--it provides us with patterns of action which can often increase the efficiency of the problem-solving process. We thus ignore various alternative possibilities for response, thus saving time. We did not take the time to multiply or subtract the numbers in the illustration because of our set to add. Set responses have an obvious disadvantage. Although set responding can simplify problem-solving, it can also ensure, in some cases, that the problem will not be solved at all. In instances where new or different solutions are required, anything, such as a set, which limits the range of possible solutions can reduce efficiency. It is significant that creative people tend to have very weak sets in their approaches to problems. (Pause)

Stimulus generalization and "sets" influence the accuracy of our perceptions. There are, in addition, other learned factors which can function in the same manner. One of these is attitude. As a future leader, it is important for you to be aware of these factors. You will find occasions when attitude will be operating on your men to cause misperceptions and you should be able to make informed judgments about how to deal with such situations. Psychologists define attitude as a tendency to respond favorably or unfavorably to certain objects, persons or situations. Thus, attitudes make us tend to categorize objects or people. As an example, let's assume that a person with an unfavorable attitude toward gambling was exposed to the four situations which follow. (Pause)

Now look at Item 24.

Suppose he believed that all men who played cards were hoods--conmen--characters living in the dimly lit world of the gangster and the Mafia. He would undoubtedly perceive these men in this category. The encounter would reinforce his attitude about gambling. (Pause)

Now look at Item 25.

The same individual may not have the same attitude about ladies playing cards. So when he encounters this situation he sees it as a desirable relaxation period for busy housewives. (Pause)

Now look at Item 26.

Because this situation conflicts with his attitudes, the individual with an unfavorable attitude toward gambling most likely will ignore the fact that the men are well dressed and that they aren't gambling. (Pause)

Now look at Item 27.

At the same time he would accept the ladies playing bridge even though they may be playing for a nickel a point. This example illustrates one of the basic truths about the effects of attitude on perception. A person tends to selectively perceive those things which fit his attitudes and beliefs. He pays little attention to other factors. Things which might threaten his attitudes he either misperceives or simply doesn't perceive--distorts or ignores. Thus, the attitudes of both the individual and society at large tend to be reinforced and strengthened--rather than changed--by perception. As a leader, you will find it interesting and sometimes challenging to deal with men whose attitudes toward a variety of situations are colored by their personal and internal needs for ego protection, ego gratification and anxiety reduction. (Pause)

The attitude which the subject in our example held toward gambling is, of course, an example of prejudice. Prejudice is an unfavorable attitude toward a group which is then directed indiscriminately toward members of that group. Prejudice constitutes one of the major attitudinal problems you will encounter as a leader. (Pause)

Now look at Item 28.

We have mentioned that perceptions tend to reinforce attitudes. What we do, in fact, is make a conscious effort to preserve our attitudes. There are several ways in which people structure their perceptions in order to reinforce and preserve their attitudes. As we discuss them, you will realize that most of them are familiar. You will probably think of instances where you, yourself, have structured your perceptions in accordance with your attitudes. Selective interpretation is one way we tend to preserve an attitude. This was illustrated by the man who misperceived decent men playing cards and viewed them as gamblers, hoods, members of the Mafia. At the same time, he saw ladies playing cards as individuals enjoying simple relaxation. Another method of attitude preservation is simple avoidance or suppression of information. The man illustrated in Item 28 is flipping through various magazines in the dentist's waiting room, looking for one that fits his particular attitudes. Suppose he's a political liberal. He is likely to avoid the National Review. For, the fact is, he doesn't want to question his attitudes. But, even if he does read something that presents the other side of things, the chances are it will have no effect on him. He is likely to be skeptical of any information that might appear to be convincing. His first reaction will be to assume that the writer is distorting his facts, propagandizing or just plain lying. He will do all he can to deny the credibility of the source of the information. He will call a publication with a point of view diverse from his own a "rag" or a "smear sheet." He will call a journalist with whom he disagrees, a "muckraker," or politician whose politics he dislikes, a "demagogue." Denial of source credibility can lead to misperceptions in a variety of situations. Consider the fate of the boy who cried "wolf" who, having often given false or misleading information, actually presented valid information. His credibility was denied and his neighbors consequently failed to respond correctly to the situation. (Pause)

Now look at Item 29.

Social pressure is a major reason why we structure our perceptions to preserve our attitudes. The midshipman in the center of the drawing obviously does not enjoy drinking. From the look on his face, he probably believes that it is wrong. All of his classmates, however, are drinking, and the midshipman feels the social pressure of a need to be one of the boys. At this point, he begins to adjust his perceptions. He may decide that beer doesn't taste so bad after all. He may decide that the behavior of his friends is not as ludicrous as it first appeared. In order to maintain his identity with the group, he may bury his scruples and drink. Most instances of cultural influence on our perceptions go back to early childhood and are far more subtle than the midshipman's experience. Experiments have shown that most American children learn to discriminate many shades of color at an early age. In some parts of Siberia, however, children could not discriminate colors. The same children could discriminate patterns in reindeer hides that to American children, even to American adults, looked identical. The difference in the children's abilities can be explained by the difference in cultural demands made on their perceptual abilities. Another cultural factor that affects our perceptions is social taboo. It has always been socially taboo in the Navy for gentlemen to discuss politics, religion or sex in the wardroom mess. If, during your first visit to a large ship's wardroom mess, conversation on these subjects took place, it is most likely that you would perceive the individuals to be crude and uncultured and the ship itself to be lax in its discipline. (Pause)

Now look at Item 30.

Attitude learning can be explained in a context with which--you are already quite familiar--that of reinforcement. Through discrimination learning, a pigeon in a Skinner box can be conditioned to peck a white key in the presence of a red light, and a black key in the presence of a green light. This is accomplished by providing reinforcement for the correct response in the presence of the appropriate stimulus. In a somewhat more complex and protracted way, the same kind of learning occurs in humans. Like any other learning, the learning of attitudes is controlled by reinforcement. When certain attitudes are reinforced and certain others are not, the process is known as differential reinforcement. The pigeon's responses to the colors are reinforced by pigeon feed. Our own attitudes are reinforced by a great variety of stimuli such as propaganda, education, language or social suggestion. Families, schools and peer groups are media which all differentially reinforce the individual. Attitudes which these groups wish the individual to possess, are reinforced. Other nonreinforced attitudes tend to be eliminated, to drop by the wayside. What this means is that a unified society establishes the reinforcement contingencies and thus determine which attitudes will be fostered and which will not. Internal needs affect a person's attitudes as well. (Pause)

Now look at Item 31.

When somebody or something displays hostility toward an individual, the individual's normal reaction is to strike back. When it is impossible to do so, because of social pressures or other reasons, the individual often reacts by displaying what is called displaced aggression--turning his hostility toward some third party. In the illustration, the lieutenant cannot yell back at the captain with impunity. He can and does, however, yell at the ensign. This proceeds on down the hierarchy to the seaman. He cannot strike back at the source of his difficulty, the petty officer, but he can challenge another seaman with impunity. Most military leaders, at one time or another, run into problems created by subordinates' misperceptions based on prejudice. It is well to bear in mind that prejudice is learned and, therefore, fed by factors like social pressures and displaced aggression. The problem can be dealt with by attacking these underlying causes. (Pause)

Now look at Item 32.

Children do much of their learning through imitation. When we teach a child to eat with a fork or to brush his teeth, we provide him an example. In many cases, however, the parents unconsciously provide examples. More than one father has been shocked to hear his small child using the kind of language he himself used the last time the family car was stuck in a traffic jam. Yet, by encouraging the child to model himself after him in other things, the father has "taught" the child profanity just as he has taught him to throw a ball or to play fairly. This tendency of a child to imitate the behavior of his parents and of other adults is called modeling. It manifests itself in obvious ways, such as dressing up in the parents' clothes, or in more subtle ways, such as copying attitudes. Modeling does not end with early childhood. Some of you can probably remember, when you first came to the Academy, patterning your behavior after some upperclassman whom you admired or who seemed to be achieving particularly well. Having a model to imitate can ease a person's adjustment to a new and strange situation. Since modeling constitutes an influence on our perceptions, a good leader should be sure to provide a good model for his men to follow. In addition, he should develop a keen sensitivity to other "models" his men may be following. Then he will be able to determine the causes of any misperceptions stemming from his subordinates' modeling incorrect or undesirable behavior. A leader should never forget his role as a model, and make sure that his behavior is always exemplary. (Pause)

Now that we have examined some of the factors that can influence perceptions, you can see how the leader may play a critical role in training his men to avoid misperceptions. By remaining constantly aware of the pressures and needs which act on his subordinates, a good leader can help his men to make accurate perceptions and to act according to them.

This is the end of Part Two, Segment V.

PROGRAM FRAME ANSWERS

PART TWO

Segments I, II, III, IV & V

PROGRAM FRAME ANSWERS

PART Two SEGMENT I TYPE Syndactic Text PAGE 1 OF 1 PAGES

FRAME OR QUESTION NUMBER	CORRECT ANSWER
PROGRAMED SEQUENCE 1	
1	c
2	a
3	d
4	b
5	b
6	c
7	a
8	d
9	c
10	a
11	a
12	b
13	b
14	a
15	b
16	a
17	a-2,b-3, c-4
PROGRAMED SEQUENCE 2	
1	b
2	b
3	b
4	b
5	a
6	b
7	a
8	c
PROGRAMED SEQUENCE 3	
1	c
2	b
3	c
4	a
5	b
6	c
7	a-2,b-1, c-4,d-4, e-2
PROGRAMED SEQUENCE 4	
1	a
2	b
3	c
4	c
5	b
6	a
7	c
8	a
9	a
10	c
11	b
12	a

PROGRAM FRAME ANSWERS

PART Two SEGMENT II TYPE Audio Panel Book PAGE 1 OF 1 PAGES

FRAME OR QUESTION NUMBER	CORRECT ANSWER
1	a,d
2	a
3	a,c
4	a-2,b-3, c-1,4
5	b
6	a-2,6; b-3; c-1,4,5
7	c
8	c
9	d
10	a-2,b-1
11	d
12	b
13	a-1,3; b-2,4,5
14	a
15	c,e
16	a-2,b-3, c-4,d-1
17	b
18	a
19	b,c

PROGRAM FRAME ANSWERS

PART Two SEGMENT III TYPE Audio Panel Book PAGE 1 OF 1 PAGES

FRAME OR QUESTION NUMBER	CORRECT ANSWER
1	d
2	b
3	c
4	b
5	a-6,b-5 c-2,d-3 e-1,f-4
6	a
7	b,c
8	a-2,b-3
9	a
10	b
11	a-2,b-1 c-3,d-4
12	b
13	c
14	a-3,b-1 c-4,d-2
15	b
16	a
17	a

PROGRAM FRAME ANSWERS

PART Two SEGMENT IV TYPE Audio Panel Book PAGE 1 OF 1 PAGES

FRAME OR QUESTION NUMBER	CORRECT ANSWER
1	a
2	a,b,c
3	a,c
4	b,d
5	b
6	a
7	b
8	c
9	c
10	a
11	a-1,5; b-2,3,4
12	a
13	a
14	c
15	b
16	d

PROGRAM FRAME ANSWERS

PART Two SEGMENT V TYPE Audio Panel Book PAGE 1 OF 1 PAGES

FRAME OR QUESTION NUMBER	CORRECT ANSWER
1	a
2	a-5, b-1, c-2, d-4
3	c
4	a, c, d
5	d
6	a-2, 3 b-4, c-1
7	d
8	b, 3
9	b, d
10	a
11	c
12	a
13	b